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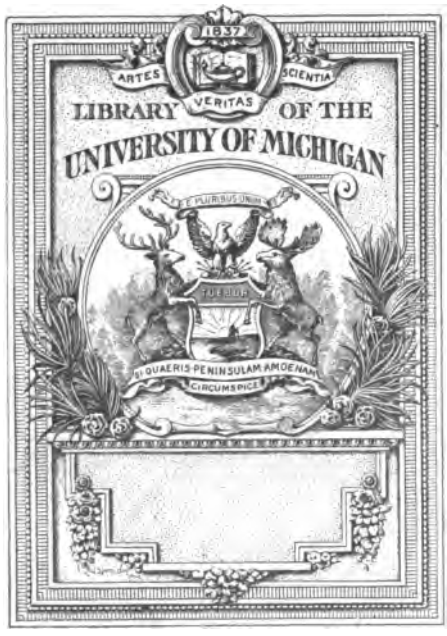
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TRANSACTIONS

OF

THE CLINICAL SOCIETY.

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NOTICE

THE present Volume comprises the Proceedings of the Society during its Sixth Session, October 1872 to May 1873.

The Council think it proper to state that the authors of the several communications are alone responsible for the statements, reasonings, and opinions contained in their respective papers.

August 1873

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1867 Sir THOMAS WATSON, Bart., M.D., F.R.S., D.C.L.

1869 Sir JAMES PAGET, Bart., F.R.S., D.C.L.

1871 Sir WILLIAM GULL, Bart., M.D., F.R.S., D.C.L.

1873 PRESCOTT GARDNER HEWETT.

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*** *Members are requested to inform the Secretaries of any Corrections when necessary.*

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1870 *ALLBUTT, THOMAS CLIFFORD, M.D., F.L.S., Lecturer on the Practice of Physic at the Leeds School of Medicine, and Physician to the Leeds General Infirmary: 38 Park Square, Leeds.

1871 ALTHAUS, JULIUS, M.D.: 18 Bryanston Street, Portman Square, W.

1868 ANDERSON, JOHN FORD, M.D.: 28 Buckland Crescent, Belsize Park, N.W.

Orig Memb ANDREW, JAMES, M.D. (C.), Physician to, and Lecturer on Medicine at, St. Bartholomew's Hospital; 22 Harley Street, Cavendish Square, W. (C. 1872–3.)

Orig Memb ANSTIE, FRANCIS EDMUND, M.D., Physician to, and Lecturer on Materia Medica at, the Westminster Hospital: 16 Wimpole Street, W. (C. 1867–9.)

Orig Memb ARNOTT, HENRY (C.), Assistant Surgeon to St. Thomas's Hospital: 6 Nottingham Place, W. (C. 1872–3.)

1868 *BAÜMLER, CHRISTIAN G. H., M.D., Professor of Materia Medica at the University of Erlangen.

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1868 BANTOCK, GEORGE GRANVILLE, M.D.: 44 Cornwall Road, Westbourne Park, W.

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Orig Memb BARCLAY, ANDREW WHYTE, M.D., Physician to, and Lecturer on Medicine at, St. George's Hospital; Medical Officer of Health for Chelsea: 23A Bruton Street, Berkeley Square, W. (C. 1870–1.)

1869 BARKER, EDGAR: 21 Upper Hyde Park Street, W.

Orig Memb BARWELL, RICHARD (C.), Surgeon to, and Lecturer on Descriptive and Surgical Anatomy at, the Charing Cross Hospital: 32 George Street, Hanover Square, W. (C. 1872–3.)

Orig Memb BASHAM, WILLIAM RICHARD, M.D., Senior Physician to, and Lecturer on Medicine at, the Westminster Hospital: 17 Chester Street, Grosvenor Place, S.W.

Orig Memb BASTIAN, HENRY CHARLTON, M.D., F.R.S., Physician to University College Hospital, and Assistant Physician to the National Hospital for the Paralysed and Epileptic, and Professor of Pathological Anatomy at University College: 20 Queen Anne Street, W.

1868 *BEIGEL, HERMANN, M.D., 2 Lichtenstein Strasse, Vienna.

1871 BENNETT, JAMES RISDON, M.D., Consulting Physician to St. Thomas's Hospital, and to the City of London Hospital for Diseases of the Chest: 15 Finsbury Square, E.C.

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1868 *BRIGHT, GEORGE CHARLES, M.B., 29 Lüttichen Strasse, Dresden.

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1868 CLOVER, JOSEPH THOMAS (C.): 3 Cavendish Place, Cavendish Square, W. (C. 1873.)

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1871 GOVER, ROBERT M., M.B., Medical Officer to the Millbank Prison: 3 Crescent Terrace, Millbank, S.W.

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1868 *GUENEAU DE MUSSY, HENRI, M.D.: 15 Rue du Cirque, Paris.

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1868 HEWAN, ARCHIBALD, M.D.: 9 Chester Square, S.W.

Orig Memb HEWETT, PRESCOTT GARDNER (*President*), Surgeon Extraordinary to H.M. the Queen; Surgeon to St. George's Hospital: 1 Chesterfield Street, Mayfair, W. (V.P. 1869–71, P. 1873.)

Orig Memb HEWITT, GRAILY, M.D., Professor of Midwifery in University College, and Obstetric Physician to University College Hospital: 36 Berkeley Square, W.

Orig Memb HICKS, J. BRAXTON, M.D., F.R.S., F.L.S., Physician Accoucheur to, and Lecturer on Midwifery and the Diseases of Women and Children at, Guy's Hospital: 24 George Street, Hanover Square, W.

1868 HILL, BERKELEY, M.B., Surgeon to University College Hospital, Lecturer on Operative Surgery in University College, and Surgeon for out-Patients to the Lock Hospital: 55 Wimpole Street, W. (C. 1870–1.)

1868 HILL, THOMAS HARVEY: 4 Stanhope Terrace, Bayswater, W.

Orig Memb HILTON, JOHN, F.R.S., Surgeon Extraordinary to H.M. the Queen; Consulting Surgeon to Guy's Hospital: 10 New Broad Street, E.C. (V.P. 1867–9.)

1868 *HOLMAN, CONSTANTINE, M.D.: Reigate, Surrey.

1868 HOLMAN, WILLIAM HENRY, M.B.: 68 Adelaide Road South, Hampstead, N.W.

Orig Memb HOLMES, TIMOTHY (V.P.), Surgeon to, and Lecturer on Surgery at, St. George's Hospital; Surgeon-in-Chief to the Metropolitan Police Force: 18 Great Cumberland Place, Hyde Park, W. (C. 1867–9, V.P. 1873.)

Orig Memb HOLT, BARNARD WIGHT, Consulting Surgeon to, and Lecturer on Clinical Surgery at, the Westminster Hospital; Medical Officer of Health for Westminster: 14 Savile Row, W.

Orig Memb HOLTHOUSE, CARSTEN, Surgeon to, and Lecturer on Surgery at, the Westminster Hospital; Consulting Surgeon to the South London Ophthalmic Hospital: 3 George Street, Hanover Square, W. (C. 1870–2.)

Elected	
1873	Hope, William, M.D.: 5 Bolton Row, Mayfair, W.
1871	Houghton, Henry G., L.K.Q.C.P. Ireland: 6 Mount Street, Grosvenor Square, W.
Orig Memb	Hulke, John Whitaker, F.R.S., Surgeon to, and Lecturer on Practical Surgery at, the Middlesex Hospital, and Surgeon to the Royal London Ophthalmic Hospital: 10 Old Burlington Street, W. (C. 1867–9.)
Orig Memb	*Humphry, George Murray, M.D., F.R.S., Professor of Anatomy in the University of Cambridge, and Surgeon to Addenbrooke's Hospital, Cambridge. (V.P. 1867–70.)
1871	*Hunt, Ezra: 18 Belmont, Bath.
Orig Memb	Hutchinson, Jonathan, Surgeon to, and Lecturer on Surgery at, the London Hospital; Surgeon to the Hospital for Diseases of the Skin, and Surgeon to the Royal London Ophthalmic Hospital: 4 Finsbury Circus, E.C. (C. 1867–8.)
Orig Memb	Jackson, J. Hughlings, M.D. (C.), Physician to, and Lecturer on Physiology at, the London Hospital; Physician to the National Hospital for the Paralysed and Epileptic: 3 Manchester Square, W. (C. 1872–3.)
Orig Memb	Jenner, Sir William, Bart., M.D., D.C.L., F.R.S., Physician in Ordinary to H.M. the Queen and to H.R.H. the Prince of Wales; Physician to University College Hospital: 63 Brook Street, W. (V.P. 1867–70.)
1873	Johnson, Edward, M.D.: 19 Cavendish Place, W.
Orig Memb	Johnson, George, M.D., Physician to King's College Hospital, and Professor of the Principles and Practice of Medicine in King's College: 11 Savile Row, W.
Orig Memb	Jones, Sydney, M.B., Surgeon to, and Lecturer on Surgery at, St. Thomas's Hospital: 10B St. Thomas's Street, Southwark, S.E. (C. 1867–8.)
1872	Jones, Thomas, M.D., Assistant Physician, Victoria Hospital for Sick Children: 19 Chapel Street, Belgrave Square, S.W.
Orig Memb	Kelly, Charles, M.D., Assistant Physician to King's College Hospital: 94 Wimpole Street, W.
1868	Kesteven, William B.: 401 Holloway Road, N. (C. 1870–2.)
1868	Langmore, John C., M.B. (C.): 20 Oxford Terrace, Hyde Park, W. (C. 1872–3.)
Orig Memb	Langton, John, Assistant Surgeon to, and Demonstrator of Anatomy at, St. Bartholomew's Hospital: 18 Harley Street, W.

Elected	
1869	Lawrence, James E.: High Street, Wandsworth, S.W.
Orig Memb	Lawson, George (*Hon. Secretary*), Surgeon to, and Lecturer on Practical Surgery at, the Middlesex Hospital, and Surgeon to the Royal London Ophthalmic Hospital: 12 Harley Street, W. (S. 1871–3.)
1868	Lawson, Henry, M.D., Assistant Physician to, and Lecturer on Physiology at, St. Mary's Hospital: 10 George Street, Hanover Square, W.
1869	Leach, Harry, Resident Medical Officer, Seamen's Hospital, Greenwich, S.E.
Orig Memb	Lee, Henry, Surgeon to, and Lecturer on Pathology at, St. George's Hospital: 9 Savile Row, W. (V.P. 1870–2.)
1868	*Little, Louis Stromeyer, China.
1872	Liveing, Robert, M.D., Physician to the Middlesex Hospital: 11 Manchester Square, W.
Orig Memb	Mackenzie, Morell, M.D., Assistant Physician to, and Lecturer on Diseases of the Throat at, the London Hospital, and Physician to the Hospital for Diseases of the Throat: 13 Weymouth Street, Portland Place, W.
1871	MacCormac, William, Senior Assistant Surgeon to St. Thomas's Hospital: 13 Harley Street, W.
Orig Memb	*Marcet, William, M.D., F.R.S.: 1 Place Massena, Nice. (C. 1867–9.)
1868	Marsh, F. Howard, Demonstrator of Anatomy at St. Bartholomew's Hospital: 36 Bruton Street, Berkeley Square, W.
Orig Memb	Maunder, Charles F., Surgeon to, and Lecturer on Clinical Surgery, and Demonstrator of Operative Surgery at, the London Hospital: 16 Queen Anne Street, W. (C. 1870–1.)
1868	*May, Edward Hooper, M.D.: High Cross, Tottenham, Middlesex, N.
1868	Meadows, Alfred, M.D. (C.), Physician Accoucheur to St. Mary's Hospital; Physician to the Hospital for Women: 27 George Street, Hanover Square, W. (C. 1871–3.)
1873	Mickle, William Julius, M.D.: Grove Hall, Bow, E.
Orig Memb	Moxon, Walter, M.D., F.L.S., Physician to, and Lecturer on Pathology and Demonstrator of Morbid Anatomy at, Guy's Hospital: 6 Finsbury Circus, E.C.
Orig Memb	Murchison, Charles, M.D., F.R.S., LL.D., Physician to, and Lecturer on Medicine at, St. Thomas's Hospital, Consulting Physician to the London Fever Hospital: 79 Wimpole Street, W. (C. 1867–9.)

ELECTED

1871 MURRAY, JOHN, M.D., Inspector-General of Hospitals: 17 Westbourne Square, W.

1868 MURRAY, JOHN, M.D., Assistant Physician to, and Lecturer on Pathological Anatomy at, the Middlesex Hospital, and Assistant Physician to the Hospital for Sick Children: 42 Harley Street, W.

1868 MYERS, ARTHUR BOWEN RICHARDS, Assistant Surgeon to the Coldstream Guards: Vincent Square, Westminster, S.W.

1873 *MYRTLE, ANDREW S., M.D.: Harrogate.

Orig Memb NORTON, ARTHUR TREHERNE, Assistant Surgeon to, and Lecturer on Anatomy at, St. Mary's Hospital: 6 Wimpole Street, W.

Orig Memb NUNN, THOMAS WILLIAM (C.), Surgeon to the Middlesex Hospital: 8 Stratford Place, Oxford Street, W. (C. 1873.)

Orig Memb OGLE, JOHN WILLIAM, M.D., Physician to, and Lecturer on Pathology at, St. George's Hospital: 30 Cavendish Square, W. (C. 1867–8.)

1868 *OGLE, WILLIAM, M.D., Physician to the Derbyshire General Infirmary: 98 Friar Gate, Derby.

1869 *OLDFIELD, E., M.D.: Surinam.

1868 *OPPERT, FRANCIS, M.D.: Germany.

Orig Memb PAGET, Sir JAMES, Bart., D.C.L., F.R.S., Sergeant-Surgeon Extraordinary to H.M. the Queen; Surgeon in Ordinary to H.R.H. the Prince of Wales; Consulting Surgeon to St. Bartholomew's Hospital: 1 Harewood Place, Hanover Square, W. (V.P. 1867–8, P. 1869–70.)

1873 PARKER, ROBERT WILLIAM, House Surgeon to the Hospital for Sick Children: 49 Great Ormond Street, W.C.

Orig Memb PAVY, FREDERICK WILLIAM, M.D., F.R.S., Physician to, and Lecturer on Physiology at, Guy's Hospital: 35 Grosvenor Street, W. (C. 1869–71.)

Orig Memb PEACOCK, THOMAS BEVILL, M.D., Physician to St. Thomas's Hospital, Consulting Physician to the City of London Hospital for Diseases of the Chest: 20 Finsbury Circus, E.C. (C. 1867–8, V.P. 1869–71.)

Orig Memb PICK, THOMAS PICKERING, Assistant Surgeon to St. George's Hospital; Surgeon to the Belgrave Hospital for Children: 7 South Eaton Place, Eaton Square, S.W.

1871 *PLAYNE, ALFRED, M.B., Maidenhead.

Orig Memb POLLOCK, A. JULIUS, M.D., Physician to the Charing Cross Hospital; Physician to the Foundling Hospital: 85 Harley Street, Cavendish Square, W.

Elected	
1868	Pollock, James Edward, M.D., Physician to the Hospital for Consumption and Diseases of the Chest: 52 Upper Brook Street, Grosvenor Square, W.
1871	Poore, George Vivian, M.B., Assistant Physician to, and Lecturer on Forensic Medicine at, the Charing Cross Hospital: 30 Wimpole Street, W.
Orig Memb	Powell, R. Douglas, M.D., Assistant Physician to Charing Cross Hospital; Assistant Physician to the Hospital for Consumption and Diseases of the Chest: 15 Henrietta Street, Cavendish Square, W.
1868	*Prentis, Charles, Assistant Surgeon, Bengal Army.
1870	Pullar, Alfred, M.D.: 47 Kensington Park Gardens, W.
Orig Memb	Quain, Richard, M.D., F.R.S., Physician to the Hospital for Consumption and Diseases of the Chest: 67 Harley Street, W. (C. 1867–9.)
Orig Memb	Ramskill, J. Spence, M.D., Physician to, and Lecturer on Medicine at, the London Hospital; Senior Physician to the National Hospital for the Paralysed and Epileptic: 5 St. Helen's Place, Bishopsgate Street, E.C.
1873	Ransford, Gifford: 27 Gloucester Place, Hyde Park.
1868	Rasch, Adolphus A., M.D., Honorary Physician to the German Hospital Eastern Dispensary: 7 South Street, Finsbury Square, E.C.
Orig Memb	Rees, George Owen, M.D., F.R.S. (V.P.), Consulting Physician to Guy's Hospital: 26 Albemarle Street, W. (V.P. 1871–3.)
1868	Reeves, Henry A., Assistant Surgeon to the London Hospital: 27A Finsbury Square, E.C.
1868	Rendle, James D., M.D., Medical Officer to the Government Convict Prison, Brixton: Park Hill, Clapham Park, S.W. (C. 1869–70.)
Orig Memb	Reynolds, John Russell, M.D., F.R.S., Examiner in Medicine at the University of London; Professor of the Principles and Practice of Medicine in University College; Physician to University College Hospital: 38 Grosvenor Street, W. (C. 1867–8.)
1868	Rice, Michael W., M.D.: 8 Sloane Terrace, Sloane Street, S.W.
Orig Memb	Ringer, Sydney, M.D., Professor of Materia Medica in University College, and Physician to University College Hospital: 15 Cavendish Place, W. (C. 1871–2.)
1873	*Roberts, David Lloyd, M.D., Surgeon to St. Mary's Hospital, Manchester: 23 John Street, Manchester.

ELECTED

Orig Memb ROUSE, JAMES, Assistant Surgeon to St. George's Hospital, and to the Royal Ophthalmic Hospital, Charing Cross; Lecturer on Anatomy at St. George's Hospital: 2 Wilton Street, Grosvenor Place, S.W.

1868 SANDERSON, HUGH JAMES, M.D.: 26 Upper Berkeley Street, W.

Orig Memb SANDERSON, JOHN BURDON, M.D., F.R.S. (V.P.), Professor of Practical Physiology in University College: 49 Queen Anne Street, W. (S. 1867–9, C. 1870, V.P. 1871–3.)

1873 SAVAGE, GEORGE HENRY, M.D.: Bethlehem Royal Hospital, S.E.

1869 SEDGWICK, LEONARD WILLIAM, M.D.: 2 Gloucester Terrace, Hyde Park, W.

Orig Memb SHAW, ALEXANDER, Consulting Surgeon to the Middlesex Hospital: 136 Abbey Road, N.W.

Orig Memb SIBLEY, SEPTIMUS WILLIAM (C.): 12 New Burlington Street, W. (C. 1871–3.)

Orig Memb SIBSON, FRANCIS, M.D., F.R.S., Consulting Physician to St. Mary's Hospital: 59 Brook Street, W. (C. 1867–70.)

1868 SIMMS, FREDERICK, M.B.: 46 Wimpole Street, W.

Orig Memb SIMON, JOHN, D.C.L., F.R.S., Surgeon to St. Thomas's Hospital; Medical Officer to H.M. most Honourable Privy Council: 40 Kensington Square, W. (V.P. 1867–70.)

1873 SIMPSON, GEORGE M., M.D., C.M.: Hampstead Lane, Highgate.

1872 SLIGHT, GEORGE, M.D.: 25 Brewer Street, Regent Street, W.

1868 SMITH, HEYWOOD, M.D., Physician to the Hospital for Women: 2 Portugal Street, Grosvenor Square, W.

1868 SMITH, PROTHEROE, M.D., Physician to the Hospital for Women: 42 Park Street, Grosvenor Square, W.

Orig Memb SMITH, THOMAS, Surgeon to, and Lecturer on Anatomy at, St. Bartholomew's Hospital, and Surgeon to the Hospital for Sick Children: 5 Stratford Place, Oxford Street, W. (C. 1869–71.)

1873 SMITH, WILLIAM WILBERFORCE: 20 Bishop's Road, Paddington, W.

1868 *SNOW, WILLIAM V., M.D.: Richmond Gardens, Bournemouth.

Orig Memb SOUTHEY, REGINALD, M.D. (*Hon. Secretary*), Physician to, and Lecturer on Forensic Medicine and Hygiene at, St. Bartholomew's Hospital: 6 Harley Street, Cavendish Square, W. (C. 1867–70, S. 1873.)

Elected

1868 Squarey, Charles Edward, M.B., Assistant Physician to the Hospital for Women: 13 Upper Wimpole Street, W.

Orig Memb Stephen, Andrew, M.D.: 58 Queen's Gate, Kensington, S.W.

Orig Memb Stewart, Alexander Patrick, M.D. (V.P.), Consulting Physician to the Middlesex Hospital: 75 Grosvenor Street, W. (V.P. 1872-3.)

1871 Stewart, William E.: 12 Weymouth Street, Portland Place, W.

1872 Sutherland, Henry, M.D., Lecturer on Insanity, Westminster Hospital: 6 Richmond Terrace, Whitehall, S.W.

1868 Sutro, Sigismund, M.D., Senior Physician to the German Hospital: 37A Finsbury Square, E.C.

Orig Memb Sutton, Henry Gawen, M.B., Assistant Physician to, and Lecturer on Pathology at, the London Hospital; and Assistant Physician to the City of London Hospital for Diseases of the Chest: 9 Finsbury Square, E.C.

1868 Tatham, John, M.D., Assistant Physician to the Hospital for Consumption and Diseases of the Chest: 1 Wilton Place, Knightsbridge, S.W.

Orig Memb Teevan, William F., Surgeon to the West London Hospital: 10 Portman Square, W.

Orig Memb Thompson, Edmund Symes, M.D., Physician to the Hospital for Consumption and Diseases of the Chest; Gresham Professor of Medicine: 3 Upper George Street, Portman Square, W.

Orig Memb Thompson, Sir Henry, Knt., Surgeon Extraordinary to H.M. the King of the Belgians; Professor of Clinical Surgery in University College, and Surgeon to University College Hospital: 35 Wimpole Street, W. (C. 1867–8.)

Orig Memb Thompson, Henry, M.D., Fellow of St. John's College, Cambridge; Senior Physician to the Middlesex Hospital: 53 Queen Anne Street, W.

1868 Thorowgood, John C., M.D., Assistant Physician to the City of London Hospital for Diseases of the Chest, and Lecturer on Materia Medica at the Middlesex Hospital: 61 Welbeck Street, W.

1872 Thornton, William Pugin: 42 Devonshire Street, Portland Place.

1868 Venning, Edgcombe, Assistant Surgeon, 1st Life Guards, Knightsbridge Barracks, S.W.

Elected	
1869	Vernon, Bowater J., Ophthalmic Surgeon to St. Bartholomew's Hospital: 44A Wimpole Street, W.
1868	Wagstaffe, William Warwick, Resident Assistant Surgeon to St. Thomas's Hospital: Albert Embankment, Westminster Bridge, S.E.
1869	Walker, Joseph, Dental Surgeon to the Westminster Hospital: 22 Grosvenor Street, W.
1870	*Warwick, Richard Archer, M.D., Surgeon to the Richmond Infirmary: 5 Hill Rise, Richmond, S.W.
1868	*Warwick, William R., M.D.: Southend, Essex.
1868	Watkins, Edwin T., M.D.: 61 Guilford Street, W.C.
Orig Memb	Watson, Sir Thomas, Bart., M.D., D.C.L., LL.D., F.R.S., Physician in Ordinary to H.M. the Queen; Consulting Physician to King's College Hospital: 16 Henrietta Street, Cavendish Square, W. (P. 1867–8.)
Orig Memb	Watson, William Spencer, M.B., Surgeon to the Royal South London and to the Central London Ophthalmic Hospitals: 7 Henrietta Street, Cavendish Square, W.
Orig Memb	Weber, Hermann, M.D. (V.P.), Physician to the German Hospital: 10 Grosvenor Street, W. (C. 1867–71, V.P. 1873.)
1869	Wells, J. Soelberg, M.D., Professor of Ophthalmology at King's College; Ophthalmic Surgeon to King's College Hospital; and Assistant Surgeon to the Royal London Ophthalmic Hospital, Moorfields: 16 Savile Row, W.
1868	Wells, Thomas Spencer (C.), Surgeon in Ordinary to H.M.'s Household; Surgeon to the Samaritan Free Hospital: 3 Upper Grosvenor Street, W. (C. 1873.)
1868	Whipham, Thomas Tillyer, M.B., Assistant Physician to, and Curator of Museum at, St. George's Hospital: 37 Green Street, Grosvenor Square, W.
1871	Wight, George, M.B., C.M., 428 Liverpool Road, N.
Orig Memb	Wilks, Samuel, M.D., F.R.S. Physician to, and Lecturer on Medicine at, Guy's Hospital: 77 Grosvenor Street, W. (C. 1871–2.)
Orig Memb	Willett, Alfred (C.), Assistant Surgeon to St. Bartholomew's Hospital: 36 Wimpole Street, W. (C. 1872–3.)
Orig Memb	Williams, Charles James Blasius, M.D., F.R.S., Consulting Physician to the Hospital for Consumption and Diseases of the Chest: 49 Upper Brook Street, W. (V.P. 1867–70.)
Orig Memb	Williams, Charles Theodore, M.D., Physician to the Hospital for Consumption and Diseases of the Chest: 78 Park Street, Grosvenor Square, W.

Elected	
1870	Williams, William Rhys, M.D., Lecturer on Mental Diseases at St. Thomas's Hospital: Bethlehem Royal Hospital, Lambeth Road, S.E.
Orig Memb	*Willis, Francis, M.D.: Braceborough, Stamford.
1868	Wiltshire, Alfred, M.D.: Assistant Physician-Accoucheur, St. Mary's Hospital: 57 Wimpole Street, W.
1869	Wolff, Abraham, Surgeon to the Jews' Deaf and Dumb Home: 48 Gloucester Gardens, Hyde Park, W.
1872	Yeo, J. Burney, M.D., Assistant Physician to King's College Hospital, and to the Brompton Hospital for Consumption: 60 St. James's Street, Piccadilly, S.W.

CLINICAL SOCIETY OF LONDON.—BALANCE SHEET 1871-2.

1871		£	s.	d.	1871		£	s.	d.
	Balance from last account	249	3	0	Jan.	By purchase of £216 10*s.* 2*d.* 3 per cent. consols	200	5	6
	Arrears of subscriptions for 1870–1	1	1	0	Oct.	By cost of printing, binding, and delivering Vol. V. of 'Transactions'	110	6	6
1872	Subscriptions for 1871–2	194	5	0		Medical-Chirurgical Society for use of rooms	47	5	0
	Admission fees from new members	14	14	0		Refreshments and attendance	31	10	0
	Sale of 'Transactions'	19	10	4		Printing, stationery, postage, &c.	12	4	5
	Half-year's dividend on £216 10*s.* 2*d.*, 3 per cent. consols	3	3	11		Collecting subscriptions	7	14	0
						Longmans' commission and cost of advertisements	6	19	2
	Unpaid arrears of subscriptions: £ 6	*s.* 6	*d.* 0				416	4	7
						Balance due from the Treasurer to the Society	65	12	8
		£481	17	3			£481	17	3

E. HEADLAM GREENHOW,
Treasurer.

Audited and found to be correct, { G. V. POORE, HARRY LEACH, } *Auditors.*
T. BUZZARD, *Hon. Sec.*

ADDRESS BY THE PRESIDENT,

PRESCOTT GARDNER HEWETT.

GENTLEMEN,—You have done me a very great honour in electing me fourth President of the Clinical Society. But when I think of the names of those who have preceded me in this Chair, I cannot help feeling great responsibility in having to follow such men, and such a responsibility I would not willingly have incurred. It is, however, my duty to accept it at your hands; and, with your assistance, I hope to be able, in some measure, to carry on the good work so well begun. By the valuable work already done in the few years of its existence, the Clinical Society has promise of a great future; and, with its associations of physicians and surgeons, with its hospital staffs and private practitioners, it ought to rival its far-famed elder sister, the Pathological Society.

In the remarks which I am about to make, it is, however, more particularly to private practitioners that I wish, on the present occasion, to address myself, as I feel convinced that there is good, sound, useful work to be done clinically in private practice; nay more, if rightly viewed and rightly used, the clinical results to be obtained in private practice are, I think, in many respects, of much greater value than those which can generally be obtained in our hospitals. To catch mischief at its very dawn, to follow it in its development, to watch the various evils to which it may ultimately lead—for investigations such as these, sometimes necessarily extending over years, private practice is assuredly our best field. And associated as the private practitioner sometimes is for years with a family, not unfrequently will he have the opportunity of seeing the gradual development clinically of the child into what the parent was, of watching in the

offspring the earliest signs of the troubles fully developed with which he was familiar in the parent, and perchance of following them out in the one as he had previously done in the other. Family tendencies such as these, if carefully watched and accurately noted, would be of great value to the Clinical Society; and so, too, would, in a different way, be the accurate record of many a case followed out from beginning to end.

And now, wishing to urge, as far as in me lies, private practitioners to help the Clinical Society in every way by their work, I will briefly bring under your notice gleanings from two or three subjects with which I have frequently had to deal in private practice, and the thorough working out of which would, I think, be of great practical benefit.

To begin with one of the simplest subjects: severe epistaxis spontaneously occurring after the middle period of life. What apparently could be of so little importance clinically? How little thought, commonly, would be bestowed on nose-bleeding under such circumstances, and yet it ofttimes is the little cloud no bigger than a man's hand.

My attention was first called to this subject many years ago by my having to see a gentleman who was suffering from a severe attack of epistaxis, which had suddenly occurred without any apparent cause. The bleeding was, with some trouble, ultimately stopped; and then came the question, as to what had given rise to it. Healthy-looking, and at the mid-period of life, the patient had always been in all things a temperate man; there was no marked disease in any one of his organs, and the only wrong that I could detect was a little thickening of the radial artery at the wrist, the coats of which vessel were somewhat rigid, and could be felt under one's finger when slightly pressed upon. This was all, but it was quite sufficient to lead to the inference that the minuter arteries in different parts were in the same condition as, probably in a more advanced state of degeneration than, the radial. It was the arteries of the nose which had given way on the present occasion; but it was felt that, with such a condition of the arterial system, other vessels might in their turn burst at some future period. In the course of three or four years, the nose-bleeding recurred from time to time, with more or less violence, the condition of the radial artery remaining much the same. Then the outpour of blood occurred in the brain; it was slight, however, and so from its effects the patient recovered in due time, and went about

for some eighteen months, when extensive bleeding again occurred in the brain, and this ended fatally in a few hours.

I have ventured thus briefly to allude to this case, as it was the first of its kind which I had an opportunity of narrowly watching throughout its whole course. But since then I have several times had to deal with epistaxis occurring under similar circumstances, the radial artery being in all of them more or less thickened, and without marked disease about any one of the viscera. In some of these cases, too, hæmorrhage ultimately occurred in the brain. I have had no opportunity of examining pathologically the condition of the radial artery in the cases to which I have referred; but I think it probable that the thickening of this vessel will be found to be of the nature of the arterial degeneration, which has been so ably brought under our notice by our late President, Sir William Gull, and his coadjutor Dr. Sutton, rather than of the nature of atheroma. However this may be, the point remains that a slight thickening of the radial artery, easily detected with a little care, is a warning as to the condition of the smaller arteries, and as to the possible ulterior evils which may arise from it.

I pass now to another subject, that of blocking, plugging of the veins, thrombosis, or thromballosis, as it has been called in the present day. And I am induced to direct attention to this subject on account—if I may judge from what has fallen under my own notice of late years—of its greatly increasing frequency in private practice. With few exceptions, all the cases which I have seen in private practice have arisen spontaneously, and been in no wise connected with the ordinary causes of the clotting of the blood, such as wounds, bed-sores, fractures, or pressure of any kind. In a very few cases only did the clotting of the blood appear to be connected with an injury—a slight contusion, a sudden strain—of the limb. In some cases it followed fever, especially typhoid fever, and in one remarkable case, in which both external iliac veins and both axillary veins, in the course of months, became permanently blocked, it followed small-pox. In endeavouring to sift out the causes, the only one I could fairly lay my finger upon in by far the greater number of these cases was a gouty condition—a condition described by Sir James Paget as gouty phlebitis. In none of the cases had there been an attack of gout, but close questioning proved, at any rate, a tendency to gout. Most of them were beyond 40; and, in tracing out the history, one

came upon dyspepsia more or less troublesome, frequent deposits of lithates, slight eczematous eruptions from time to time, anomalous pains in various muscles, sharp deep-seated pains in the tongue, existing for two or three days, and then disappearing altogether for awhile, crackling about the cervical spine in slight movements, more or less, sometimes a mere suspicion of knottiness about the smaller joints of the fingers; mere straws, it is true, but a goodly bundle when put together. In some cases, there had been as yet merely two or three of such straws; but in others, these straws had been gradually showing themselves one after another, and year by year. The great difficulty in such an investigation is to get at a clear recognition of such trifles; for, disappearing as they often do for awhile, they are forgotten until recalled to the mind. In some cases, too, this spontaneous blocking of the veins occurred in two members of the same family, showing, at any rate, a family tendency. It is in men that I have seen this blocking of the veins by far most frequently. Some were professional, some business men, somewhat hard-worked; others were men of independent means; they were all temperate as to stimulants, but two or three of them were large eaters. With two exceptions, all these cases of blocked veins occurred in the lower extremities, the exceptions being one, in one of the brachial veins, the other, in both axillary veins.

In the lower extremities, the cases occurred, with few exceptions, in veins apparently in no wise diseased; in the other cases, the veins were more or less varicose; and it was in these that the clotting of the blood appeared to be connected with a strain of the limb. And, with few exceptions, too, it was in the veins of the leg that the mischief first made its appearance; for the most part, it was in a superficial vein, and only very occasionally in a deep-seated one. A peculiar feature in many of the cases was the point at which the mischief started, at the back of the leg, midway between the heel and the ham. But, whatever the starting-point, the mischief for the most part spread from vein to vein; in some being confined altogether to the superficial veins, and in others involving ultimately both superficial and deep vessels. The spreading mischief in both cases took an upward course, that of the blood; but in a few it proceeded in a contrary direction, and starting from the leg, it ended in the foot. In a few cases, the mischief did not spread along the veins continuously, but made its appearance in isolated spots;

about the middle of the leg, then in the sole of the foot, and, after awhile, it suddenly appeared in the upper part of the thigh.

In some cases, the mischief had come on insidiously, and with but little pain; the first thing noticed being a sense of weight about the limb, then its gradual swelling; and, in a few cases, so slight had been the pain, that the patients had gone about, and, when seen for the first time, the femoral vein was found blocked in the groin: in such cases the general symptoms, too, have been but very slightly marked. On the other hand, in some cases, and especially so in three (one lady and two gentlemen), the pain was intense, so much so that the slightest touch caused agony. In these three cases, the only thing noticed at first was intense pain, confined to the mid-part of the back of the leg; and, unless on one's guard, the exact nature of the case would at first certainly have been overlooked. Then, after a few days, came very slight puffiness about the ankles, and so matters went on for some days, after which the pain began to spread along the course of the veins, which gradually became hard, and could, after a while, be felt like cords under one's finger. In two of these cases the mischief was in the superficial veins; in the third, it was in the sural: and from these vessels it spread upwards and downwards, involving most of the veins, but not extending to the femoral, the whole limb becoming ultimately more or less swollen and brawny. In these three cases, from first to last, wherever the disease spread there was the same intense pain, which was accompanied by great feverishness, and in one case by slight wandering at the beginning.

In two cases, after a year or two, there was a recurrence of the disease in the opposite limb. In one of these the attacks differed widely from each other. In the first attack, there was comparatively little pain, but the whole limb was very much swollen, the disease having spread to the main veins; in the second attack, the pain was throughout so intense that attempts at standing all but caused faintness, and that in a gentleman of great courage and all-enduring as to pain. This difference between the two attacks was very pithily put by the patient himself: in the first attack it was, he said, 25 per cent. of pain and 75 of swelling, and in the second attack, it was 75 of pain and 25 of swelling.

All these cases of blocked veins were very tedious ones; and, spreading as the mischief did from vein to vein, many

weeks, and in some many months, elapsed before the disease subsided. In three cases, embolism occurred, giving rise in two to pleuro-pneumonia, and in one to plugging of the posterior tibial artery and mortification of the foot. The two first recovered; the last, far advanced in years and broken down in health, ultimately sank.

And when seen in after years, the condition of the limb in these cases of blocked veins has varied very much. In a few the limb recovered its usual appearance, save perhaps a very slight increase in its size, in no ways interfering with the freest action; for I have known one gentleman who, after an attack of this kind which confined him to his couch for months, returned to deer-stalking, with as much zest and activity as before. In other cases the limb remained more or less swollen, and, consequently, with its action more or less interfered with, the circulation being carried on by anastomosing veins, largely increased in size and tortuous. In one case, where both external iliac veins and both axillary veins had become permanently blocked, there was a mass of large tortuous veins spreading over the belly and chest; but so little was the action of the limbs interfered with, that the gentleman, an officer in a heavy cavalry regiment, was able to remain in the service and efficiently to discharge his duties.

And, as closely allied to this blocking of the veins, I will now direct your attention to a class of cases, not alluded to, as far as I know, in the most recent works on surgery. I believe that blocking may occur in the corpus cavernosum of the penis in the same way as it does in veins—that is, spontaneously in gouty constitutions, and without strain or injury of any kind. I have been led to this belief by two cases, the first of which was in a gentleman 65 years of age, whom I had known for a number of years, during the latter part of which he had in various ways shown a decided tendency to gout, and who consulted me concerning a nodule in the under part of the corpus cavernosum, and about an inch beyond the glans. Of the size of a sixpence, this nodule was hard and perfectly circumscribed; it was without pain, and as there had never been any injury of any kind or sort, it had been accidentally discovered. There were no enlarged glands in the groin. Matters remained much in the same state for a couple of years, when this gentleman met with a severe accident whilst riding in the country, and of this he ultimately died. The exact nature of this case thus remained

doubtful until the second case fell under my notice. The gentleman, who was 58 years of age, had also shown in various ways a tendency to gout; and in this case, too, the trouble was accidentally discovered, there never having been strain or injury of any kind. In the corpus cavernosum were four nodules, three on the left side and one on the right side. Varying in size from a pea to that of a French bean, they were perfectly circumscribed, hard to the touch, knot-like, and painless when handled. There were no enlarged glands in the groins; the patient had never had syphilis, and he was in good health and of his usual weight. I first examined the case two years back, and all that has occurred from that time to this is a marked diminution in the size of the nodules; two of them having disappeared, leaving merely a trace of thickening, and the largest being now not bigger than a pea. The groins remain perfectly free, and the gentleman is in his usual health and of his usual weight: and during these two years the case was left undisturbed by treatment; no medicine of any kind has been taken; nothing was applied locally; the disease was left to its natural course. Such were the two cases, and, from the course which they have pursued, I think it may fairly be inferred that they were cases of spontaneous blocking of a gouty origin, in patches, of the corpus cavernosum.

I shall conclude with a subject deserving, I think, of the utmost attention in the present day—that of the after-effects of the syphilitic poison in all their multifarious forms. It is, however, to those effects, known as tertiary, to which I would now especially direct your attention, as it is in such cases that there is ofttimes the greatest difficulty in arriving at a correct diagnosis. And here again I am induced all the more readily to say a few words on this subject, on account of the largely increasing frequency, as it seems to me, of cases of tertiary both in private and in hospital practice. As to diagnosis, the difficulty in such cases may arise from various causes by which the practitioner may be thrown off his guard. Frequently the difficulty arises from the form under which the tertiary makes its appearance, and the lapse of time intervening between it and the other constitutional symptoms. Let me mention briefly five such cases, in which there was an interval of fifteen, twenty, twenty-one, twenty-six, and twenty-eight years between the appearance of tertiary and the cessation of all secondary mischief; and in these long intervals there had been good average health,

without a trace to indicate a syphilitic taint. The tertiary mischief which suddenly showed itself, without any apparent cause, in these five cases was, in the first, hemiplegia; in the second, paraplegia; in the third, tumours in several muscles and one on the head; in the fourth, extensive ulceration of the tongue; and in the fifth, a hard painless tumour on the forehead. All these cases did well; and in the cases of paralysis there ultimately was complete recovery, and so much so that now, after a lapse of some years, the patients are as if nothing of the kind had ever happened to them.

Tertiary mischief thus showing itself at so long an interval and at a single point, as it did in four of these cases, might easily lead to an error in diagnosis. But all the more readily would such an error be likely to occur should it so happen, as it is now well known does happen, that there is no history whatsoever either of secondary or even of primary syphilis, as instances of which I will briefly mention the two following well-marked cases.

Some ten years ago, a friend of mine came up to town to be under a physician for racking pains in various parts, supposed to be of a rheumatic nature. On examination, large quantities of albumen having been discovered in the water, the case was looked upon as one of Bright's disease, in an advanced stage. One day, however, by chance a depression was found in the skull, and about this my friend was told to seek my advice. The depression which had thus been accidentally stumbled upon was of the size of a bowl of a dessert-spoon, and, from its depth, it evidently involved the outer table and part of the diploë; but further examination also proved that there were several other depressions, more or less marked, in other parts of the skull; to all this, however, the patient's attention had never been directed, as he had not suffered from pain about his head, or noticed any irregularity in its shape. Then came the question as to syphilis, but the patient had never had anything like secondary troubles, and had even no knowledge of ever having had anything like a sore. He was an unmarried man, tall, well-built, most active, all-enduring as to fatigue, and without a trace of hereditary syphilis. With the racking pains about the joints and the muscles of the back, and especially from this condition of the skull, the case was, however, now looked upon as one of tertiary syphilis, in which the kidney had become involved; a sore in the urethra, or possibly a soft sore, which, having healed rapidly, had passed unnoticed, was thought to

have been the source of infection some years ago, whilst this gentleman was at Cambridge. Briefly, principally with iodide of iron, and a residence during two or three winters at the seaside in a southern climate, the racking pains and the albumen gradually disappeared; and at the present time this gentleman is in good health, and in field-sports exposes himself to all kinds of weather without a thought.

The second case is that of a foreign gentleman, about 35 years of age, who lately fell under my notice. He was a tall, powerfully-built man, but with a sunken, anxious aspect, and looked ill; and of late he had been losing both strength and weight. In the middle part of the inner side of the left thigh was a large, hardish, ill-defined tumour, not painful, irregular in shape, and lobulated on its surface, which was deeply imbedded in the muscles, but not connected with the bone. It had been first noticed some months previously as a small, hard, deeply-seated lump, which for awhile had remained pretty stationary; but of late it had been growing rapidly. Several enlarged glands existed in the groin. There had been no accident or injury of any kind. Divers opinions had been given as to the nature of this tumour, and a hint had been thrown out as to its perhaps being malignant. On further examination, the right groin also proved to be full of enlarged glands, amygdaloid glands as they are called now-a-days; and then came the question as to syphilis; but of this, either as primary or as secondary, there was no history whatever, and the patient had no traces of hereditary syphilis about him. Nevertheless, with these amygdaloid glands in the groins, it was thought advisable to treat the case as one of tertiary; and when I last saw the patient the tumour had all but disappeared, there being merely a slight trace of thickening at the part where it had existed; and the patient himself was now a strong and healthy-looking man.

As surgeons, it is in such a case as this that it especially behoves us to be on our guard. When several tumours of this kind exist in various parts, attention may, by their multiplicity, be directed to the cause of their existence; but with one tumour only an error in diagnosis may very easily occur. A short time ago, at a consultation at which I was present, concerning the removal of a tumour from the back, a question arose as to its perchance being of a syphilitic nature; amygdaloid glands were found in the groins, and a distinct history of syphilis of a few years' standing was

obtained; the case was treated as one of tertiary, and in due time the tumour disappeared. But patients have, in such cases, sometimes undergone formidable operations. In one case, a large portion of the scapula was removed; and in another, in which the whole tongue had been cut out for cancer, there were good reasons for believing that the disease was of a syphilitic nature.

As far back as the year 1845, Mr. Tatum put into my hands a paper on 'Tumours of Muscles cured by Iodide of Potassium;' and, as in two of the cases, at any rate, there were distinct evidences of constitutional syphilis, I advised him to send the paper to the Royal Medical and Chirurgical Society, where it was read; but it was not thought fit for publication in the 'Transactions.' In the present day, Mr. Tatum's paper would naturally have found a place in the records of the Clinical Society; and here I think lies especially the value of such a Society, dealing as it does with short practical papers, which may apparently be unimportant at the time, but which in after years become of value.

COMMUNICATIONS.

I.—*Case of Acute Rheumatism, with High Temperature and Delirium, treated by Cold Affusion. Death and P.M.* By R. SOUTHEY, M.D. *Read October* 11, 1872.

R. H. I. S., a well-built, muscular man, æt. 35, light haired, but of sallow complexion, sickened gradually as if for an attack of fever, with backache, giddiness, loss of appetite, and thirst, but without any distinct rigor.

He was a remarkably intellectual but highly nervous person, very delicate in childhood. Robust as an adult, but often hypochondriac and anxious about his health; he had never been seriously ill before. He had always had what is called a weak head, i.e. was easily affected by stimulants, and having recently embarked in business, and being often overworried and unable to sleep at night, told me that he sometimes took chloral in from 20 to 30 grain doses to get himself rest.

For the first three or four days of his illness his temperature was high at night, up to 102° and upwards, his bowels costive and high coloured, his tongue coated with a thick rheumatic-looking fur, and his pulse 96 and full, but he had no articular pains; then he got somewhat better, went out for a drive for an hour or so in the afternoon, and was up and dressed for some hours in the day. On the morning of the twelfth day since he first felt out of sorts, he had a rigor on getting up in the morning, took a hot bath, and afterwards returned to bed. I found him with a temperature of 102·5° and a pulse of 104, and complaining of pain in his back. The following morning several joints had become swelled and painful, and he was sweating profusely, with a temperature of 100°, pulse 104.

I congratulated him upon having hatched nothing more serious than an acute rheumatism after such long-continued

premonitory symptoms, and prescribed a purgative saline mixture with some colchicum.

His joints, although wrapped in an alkaline fomentation, were very painful; for the next four days he took a hot bath every day, which he found relieved him greatly, and used to soak in the hot water for about twenty minutes at a time. I much regret that I have no record of his temperature at this time, but I was forced to be away from town. When I returned, I found that Dr. Andrew, to whose care I had confided him, had found good reason for discontinuing the colchicum draught, for which he had substituted an alkaline effervescing saline. On March 16 his joints were more swollen, but less painful. On the 17th there was less swelling and less pain, but his manner was more nervous than usual; unlike himself, he spoke with emphatic slowness and deliberation, and his tongue and hands were tremulous enough to suggest delirium tremens.

On the 18th all pain had apparently left the joints. The fingers were still swelled, but he moved them quite easily; his temperature was 102°, pulse 109; pericardial friction heard at the base of the heart.

In the middle of the day he told me of a peculiar pain in his head, and said his vision was impaired; towards evening his manner became strange, he complained of vertigo in his head and began to wander in his talk.

19.—T. 104°, P. 109. His delirium was peculiar from its circumstantiality, closely resembling delirium tremens; he was constantly talking to himself or holding conversations with persons not present, and yet, when questioned about himself, he would answer correctly, do what he was asked, and state accurately some remark he had heard made; withal he was very anxious about himself, and desirous to learn what the doctors thought about him.

I ordered a mixture containing Tincture of digitalis ♏ x. and Tincture of opium ♏v. every six hours, and applied iodine to the chest. Nourishment and stimulants were given in small quantities at frequent intervals—2 pints of milk, 2 ounces of brandy, and 4 ounces of sherry were taken in the twenty-four hours.

For the next three days the temperature remained at 104°, then vacillated a little, never falling below 102·5° for two days, then steadily rose for three days up to 105°. Throughout this week his mental state remained the same, the friction sound continued audible, no increased præcordial dulness

betokened pericardial effusion. The pulse varied from 108 to 120; he perspired most profusely, urinated most abundantly —3½ pints as an average in the twenty-four hours of high-coloured urine, sp. gr. 1018, and without any albumen in it; took all the nourishment that was given him, and drank enormous quantities of fluid, having a quite insatiable thirst. For the most part of the time he was conscious of nature's wants, but his bowels did not act every day.

He took three grains of quinine every six hours, and on two occasions one-sixth of a grain of morphine at night.

Sir W. Gull first saw him in consultation with me on March 23; his state of muscular prostration was then extreme, and I think we both anticipated a shortly fatal result. On the 24th he was so much feebler that the stimulant had to be increased to ten ounces of brandy, and I added five drops of laudanum to each dose of the quinine mixture which he was taking. This had no effect in reducing his temperature, but he passed a more tranquil night, and was more coherent the next morning.

On the 25th the quinine was increased to twenty-two grains in the twenty-four hours, and the laudanum to thirty minims. He continued to take all his nourishment—soup, pint and a half; milk, two pints; and brandy, about ten ounces; was rather less rambling in his delirium, and sometimes slept for three or four hours together.

On March 27, the temperature having reached 105°, P. 130, and R. 36, I ordered a cold bath at T. 71°, into which he was lifted in a sheet. He remained in the water ten minutes, complained of it; began to talk rationally, and said he thought it the queerest treatment for rheumatism. His temperature fell to 100·5°, but remained so not more than an hour; gradually it rose again to 105°, at which I found it standing at 8 P.M.

As his bodily temperature rose, the mental faculties became disturbed again, and the delirium returned. I therefore directed him to be wrapped in a cold wet sheet (or packed if you will) for an hour, since this method seemed less fatiguing than the bath. He remained thus immersed an hour, and was frequently sponged afresh all over. This had the effect of totally dissipating his delirium, but he felt very cold and wretched.

The next day his temperature remained at 102°, the following day (29th) it fell to 101°. He was now quite rational,

took some solid food as well as his slops, and partly fed himself; still he never enjoyed any refreshing sleep.

March 30.—His temperature rose again to 104·5°; he had taken a dose of morphine the previous night with sole effect of bringing back the muttering delirium. At 3 P.M. he was again immersed in a bath at 96°, which was lowered to 71° while he remained in it. He was a quarter of an hour in the water, shivering and complaining the latter part of the time, but became more rational, and was cooler and quieter for about two hours after he came out of it. The same evening, at 9.30 P.M., his temperature again marked 104°, P. 108, R. 32; he was therefore packed again in a cold wet sheet; his temperature shortly fell to 100·5°. Still he did not sleep, and, after waiting some hours, by my advice took a chloral sleeping mixture (30 grains, in divided doses), finally only obtaining four hours' rest.

The temperature, pulse, and respirations are recorded upon the annexed table from the date of the commencement of pericarditis up to death.

Subsequently, whenever the temperature rose to 104°, a grade at which he was always delirious, I had him wet-sheeted at first for an hour at a time, but afterwards for only twenty minutes, determining the duration of the bath by the effect it had in lowering the temperature and upon his pulse and breathing; on two occasions he was wet-sheeted three times in twenty-four hours. On April 2, the thirty-third of his illness and sixteenth of his delirium, his temperature fell to 100·5° spontaneously; he was then most rational, but complained of the light hurting his eyes; there was a very slight return, too, of the rheumatic pains in his joints; but unfortunately, as I believe for him, no localised rheumatic inflammations ever were re-established, and although the cold treatment relieved some of his gravest symptoms and perhaps prolonged his life, it certainly effected no cure, for he gradually sank with low pulmonary bronchial symptoms, which became apparent a week before his death.*

* These pulmonary symptoms are not, I believe, produced by the cold water or cold bath treatment, but are the consequence of a high temperature maintained over a long time; being in this respect exactly analogous to the parenchymatous or cloudy swelling produced in the livers and kidneys, and all the gland structures, of animals kept in an artificial high temperature for several days together, of which Dr. Wickham Legg exhibited excellent microscopical illustrations to the Pathological Society on May 7, 1873. (*Vide* 'Lancet' Report for May 17, 1873, p. 699.)

TEMPERATURE TABLE.

Day of Illness	Temperature	Pulse	Respirations	Observations
4th	100	96		
5th	102	96		
6th	M. 98·5			
6th	E. 102·5'			
7th	100·2'			
12th	102·5	104		
13th	100·2	104		
18th	102	109		Pericarditis and delirium
19th	104	109		
20th	104			
21st	104	109		Quinine, 12 grains in each 24 hours
22nd	102·5	120	37	
23rd	104·4	120	36	
24th	104			
25th	103·5	108	32	
26th	104·5	120	36	
27th	105	130	36	First cold bath. Temp. fell to 100·5°
28th	102	120	32	
29th	102	108	28	
30th	104·5	108	32	Cold affusion and bath; fall of 4°
31st	102·5	104	28	
32nd	101·5	84	24	
33rd	102	108	28	Wet sheet; fall, 2½°
34th	104	108	32	
35th	104	108	32	Wet sheet; fall, 2°
36th	103·9	120	44	
37th	104·5	108	46	Wet sheet three times; fall, 3½°
38th	103	120	44	3 wet sheets; fall, 1½°
39th	103	120	44	2 wet sheets; fall, 3°
40th	103	144	52	
41st	101	120	52	
42nd	100	144	52	Death

Dr. Andrew assisted me in making a post-mortem twenty-four hours after death.

The brain was firm and quite natural; membranes healthy; no flattening of convolutions or excess of fluid in the ventricles.

A small white patch, about the size of a crown piece, marked the site of recent pericarditis. The heart was large and flabby; valves healthy.

Lungs deeply congested with blood posteriorly, somewhat œdematous anteriorly; recently emphysematous and considerably pigmented, but without trace of tubercle or chronic disease; their condition, as that of the kidneys and liver, was exactly such as is ordinarily found after acute febrile disease. The intestines were much distended with gas, but presented no ulceration or enlargement of glands.

Remarks.—Imperfect as it is, I have deemed this case of typhoid rheumatism sufficiently interesting to communicate it to the Society. First, because these cases are very rare, if I may judge by my own hospital experience; and secondly, because I have found no record of the temperatures in the cases otherwise so admirably described by Trousseau, Latham, Watson, Fuller, and others.

In its etiology, course and issue, it tallies closely with the accounts of cerebral rheumatism that have been published. There was hereditary predisposition to cerebral affections—extra combustible brain material as it has been called; great anæmia, and some little antecedent mental worry; then the articular affection suddenly subsided, the high temperature being still maintained. Some peculiarity of speech had early attracted attention to his mental state, but the first distinct delirium was preceded by the patient complaining of a peculiar sensation in his head and noticing some confusion of his sight.

We are able to conclude surely that the peculiar delirium was due to no inflammatory brain or meningeal mischief, for the post-mortem disproved it. The effect of the cold affusion during life in restoring rationality, while it cooled the body, rendered the discovery of distinct pathological changes in the head highly improbable; and whatever these might be, they were not patent to naked-eye detection.

To say that the delirium and gravity of symptoms were due to the high temperature alone would be to jump too hastily to a conclusion; since, as we know, higher temperatures can be maintained without delirium; and delirium of a quite similar kind is often presented in the subjects of delirium tremens without any high temperature.

Both the high temperature and the delirium were doubtless produced by the circulation of a blood deeply tainted with the rheumatic poison (whatever that may be) through nervous tissues of rare vulnerability; and the end, although unusually long postponed, was the same as it has been in the large proportion of similar cases.

The treatment, I am sure, will excite some comments, and may, I hope, give rise to a profitable discussion. Its futility, without further experiment, will neither convince me that it was wrong, nor deter me from employing cold affusion in rheumatic or any other form of fever when the temperature is unusually high.

The quinine treatment was not begun until after the nervous

symptoms had declared themselves. Although pushed to very large doses, it appeared to have no effect upon the temperature or the disease.

II.—*Case of Acute Rheumatism, with Cerebral Symptoms and High Temperature, treated with Cold Baths.* By EDWARD HEADLAM GREENHOW, M.D. *Read October* 11, 1872.

JOHN D., æt. 41, carpenter, was admitted into the Middlesex Hospital on April 8, 1872, for a primary attack of rheumatic fever, to which his family has shown a strong tendency, a brother having recently died of it, and two other members of the family having suffered from the same disease.

Previous history.—He had been a free liver, but his health had been good.

Present illness.—April 1, on returning from work, he complained of aching pains in the arms and legs, but although unable to work, he continued to go about until April 3, when he took to his bed, complaining of loss of appetite, thirst, and heat. On April 5 his left ankle began to swell, and on the 7th his knees, elbows, and wrists were all swollen and painful. On this day he became somewhat delirious and could not sleep at night.

State on admission.—Aspect anxious; intellect confused; speech somewhat hesitating. Wrists, elbows, ankles and knees swollen and tender. The wrists and ankles also presented a red blush. Skin dry; area of cardiac dulness normal; breath and heart sounds perfectly normal. Tongue coated with a creamy fur; bowels confined. P. 112, R. 40, T. 104·8°. He was ordered an effervescing draught of citrate of potash with excess of alkali, to be taken every four hours, pills of colocynth with henbane at bed-time, and a senna draught in the morning to move the bowels. Nitre poultices were directed to be applied to the wrists, and vesicating fluid to be painted in a strip an inch broad round the lower limbs above both knees and ankles.

Progress of case.—9 P.M.—Profuse acid sweet. Temperature 104·2°.

12 P.M.—Slight delirium. Temperature 102·6°.

April 9.—Has slept at intervals. Wrists and ankles much easier; redness and swelling have subsided. Other joints also improved. There is slight general tremor. Profuse sweating. Tongue cleaner; bowels well moved. Urine, sp. gr. 1021, acid, not albuminous. Occasional wandering of mind, passing into more pronounced delirium towards night. Temperature 103° to 103·4°.

10.—Pain and swelling of joints have greatly subsided. Considerable tremor of hands. Patient's intellect more confused, he answers questions incoherently. Temperature has not exceeded 103°.

Brandy ℥ss every four hours. Ten grains of chloral hydrate every two hours until sleep is produced.

Five doses of chloral were given without effect.

11.—General tremor of trunk and upper limbs; almost constant noisy delirium; does not answer questions. Still sweats profusely and drinks greedily. Chest covered with sudamina, some of which are surrounded by a red blush. Passes stools and urine in bed. Urine alkaline, sp. gr. 1018, not albuminous. Temperature 104·6° at noon. Towards evening there was subsultus and twitching of the facial muscles. Ordered to continue the effervescing medicine, to take at bed-time a draught containing one drachm of Tincture of henbane, ten minims of Spirit of chloroform, and three minims of Hydrocyanic acid, and to have an ice-bag applied to the head.

12.—There is constant tremor and subsultus. Delirium less noisy. Pupils small. Towards evening patient became quieter, his consciousness improved, and the tremor and subsultus abated. Temperature: morning, 103·2°; noon, 104·2°; evening, 103·8°. Ordered to repeat the night draught.

13.—Passed a better night; is quite free from pain. Says that he feels much better, but is still incoherent. Much tremor of hands; subsultus and twitching of face, especially of lips. Profuse sweating. Highest temperature 104·4°.

14.—Marked tremor; subsultus both of arms and legs; picking of bed-clothes. Constant muttering delirium and incoherent talking. Patient is quite free from pain; sweating profuse. During examination at mid-day distinct rigors.

Temperature: 9 A.M.—104·1°. 2 P.M.—105·7°. 2.30 P.M.—106°. 2.40 P.M.—106·2° in rectum.

Put into bath of temperature 98°.

2.50 P.M.—T. (R.) 106·4°, P. 116, R. 24.

Bath cooled to 88°.

3 P.M.—T. (R.) 106°, P. 112, R. 44.

Bath cooled to 83·5°.

Diminution of subsultus, improved consciousness.

3.5 P.M.—T. (R.) 105°, P. 104, R. 36.

Bath cooled to 79°. Patient complains of bath being too cold. Brandy ℥j.

3.10 P.M.—T. (R.) 104·5°, P. very small, R. 32.

Temperature of bath 76·5°. Patient has passed a loose stool, and complains of cold.

3.15 P.M.—T. (R.) 103·1°.

Temperature of bath 75°. Patient shivering. Brandy ℥j.

3.18 P.M.—Taken out of bath, put into blankets.

In a few minutes after removal from the bath his skin was found to be quite dry; he was still shivering.

At 3.25 P.M. the temperature in rectum had fallen to 101·4°, and a few minutes later to 100·2°.

At 4 P.M. the temperature had already begun to rise again, and continued gradually to do so until

6.45 P.M., when it had reached 105·1°, and patient was sweating profusely. He had now again become incoherent, and the subsultus and twitching of the face had returned.

6.55 P.M.—The temperature being 105·5°, he was again put into the bath at a temperature of 91°, in which he remained till 7.20 P.M., the bath being gradually cooled down to 77°.

Shortly after immersion in the bath the subsultus left him, he became quite conscious, and his temperature gradually fell to 102·8° in the rectum. He was removed from the bath because he complained of cold and had severe rigors.

7.45 P.M.— Twenty-five minutes after removal from bath the temperature had fallen to 99·4°, but very soon began to rise again, and by 9 P.M. had reached 102·7°, P. 100, R. 44.

He was then very restless, talkative and delirious, and had passed two loose stools involuntarily. There was also again much subsultus.

10.25 P.M.—T. (R.) 104·5°, P. 108, R. 32.—Noisy delirium continued, but patient understood what was said to him, and took food freely.

The temperature still tending to rise, he was now put into a wet pack, the sheet being wrung out of water at a temperature of 55°. The pack was renewed three times; on each occasion rigors ensued, but the tremor and subsultus left him shortly after he was placed in the cold sheet, and he became collected, answering questions pertinently and

speaking rationally: he asked several times for milk. The temperature fell very slowly, and from 11.15 P.M. remained almost stationary at 102·6°, P. 100, R. 32.

At 11.40 P.M. therefore he was put into a bath at temperature 96°, which was gradually reduced to 90°. His temperature varied scarcely at all whilst he was in the bath, and was still 102·4° (in R.) when he was removed from it, because he complained of cold. His features became pinched, and he had severe rigors. P. 96, R. 48.

12.30 A.M.—Temperature had fallen to 101·4°, but patient was wandering.

Temperature now began to rise again, and at 2.50 A.M. was 105·3° in rectum, and there was restlessness, subsultus, and delirium.

2.55 A.M.—Was again put into a bath at 86°, and kept in it until 3.20 A.M., the temperature being gradually brought down to 78°. On removal from the bath, patient's temperature had fallen to 102·9°; he was shivering, his nostrils were dilated, his pulse could not be counted on account of rigors, and his lips were slightly livid. His temperature fell to 100·6° during the first half-hour after removal from the bath, but then at once began to rise again till, by 6 A.M., it stood at 104·7°; there was again constant tremor and subsultus, with spasmodic twitchings of facial muscles. He was sweating profusely. P. small and compressible, could not be counted on account of tremors; R. 48.

April 15.—Between 3.20 A.M and 10 P.M. of this day he was successively put into five baths, the bath being each time repeated so soon as the temperature rose above 104°. The duration of immersion in these baths was 40, 30, 67, 142, and 50 minutes respectively. The highest temperature of the bath at the moment of immersion was 94°, and the lowest point to which it was reduced whilst the patient was in the water was 71°.

The greatest fall in the patient's temperature during these immersions was from 104·4° to 99·6°, and on this occasion there was a further fall to 96·5° during the first fifteen minutes after his removal from the bath.

On this day, as the baths seemed to be failing of effect, he was ordered one scruple of sulphate of quinine every four hours for four times. The first dose was given at 5.50 P.M., the second at 10.45 P.M., the third and fourth on the 16th at 4 A.M. and 11 A.M. Brandy was also given to him according to circumstances. Diet—fresh eggs, milk, and beef-tea.

After the last of the five baths (the ninth altogether) the temperature had risen by 12.15 A.M. on the 16th to 103·6°, and from that time continued to vacillate between 103·2° and 102·1° until the 17th, at 9 A.M., when it rose to 103·5°.

During this period the patient was restless, slept little, notwithstanding the administration of chloral hydrate in rather full doses, and was usually talkative and delirious, with brief intervals of consciousness. Subsultus, tremor, and facial twitching were always more or less present. He became very deaf, apparently from the four scruples of quinine he had taken, but when conscious was cheerful, and passed his urine voluntarily. Urine, sp. gr. 1020, strongly acid, not albuminous.

Between 9 A.M. April 17 and 3 P.M. April 27 he had *ten* baths, of the duration of 40, 43, 75, 60, 55, 40, 40, 45, 30, and 45 minutes respectively. The highest temperature of the bath at the moment of immersion was 96°, and the lowest point to which it was reduced before the patient was taken out was 74°. The greatest fall of the patient's temperature whilst in the bath was from 105·1° to 98·7°. After every bath but one (on which occasion it did not fall below 99·2°) the temperature continued to fall for some time after his removal from the bath, and sank to the normal standard, or somewhat below it. On the afternoon of April 20, patient's temperature on immersion being 105·9°, it fell in the bath to 99·4°, and continued to fall after his removal from the bath till the lowest point reached was 95·6°.

During these ten days there were four—viz. April 19, 21, 24, and 26—on which no baths were administered, the temperature having never exceeded 104°, and having only twice for a brief space attained that point.

From April 27 to May 4 the patient's temperature remained persistently below 104°, rarely exceeded 103°, was often as low as 101°, and on two occasions touched 100°.

May 4, at 9 A.M., it was 100·2°, but from this hour it rose until at 4 P.M. it had reached 105·8°.

He was then put into a bath at 90°, which spontaneously cooled down to 87·5 during the seventy-eight minutes he remained in it. His temperature having then fallen to 99·8°, he was removed from the bath on account of rigors, feeble pulse, and wheezing respiration. As on all former occasions, his intellect became much clearer during the immersion, and he answered questions rationally. One hour after his removal from the bath his temperature had fallen to 97·9°,

from which time it began to rise gradually, until in ten hours after removal it again touched 104°.

The temperature now oscillated between 104° and 102° until May 6, at 6 A.M., when the patient died, the temperature at the instant of death being 104·2°.

At the post-mortem examination the brain and spinal cord were much injected, but presented no other abnormal appearances either to the naked eye or under the microscope.

Lungs firmly adherent to parietes. Apex of right lung contained a cretified mass the size of a walnut. The lungs were congested posteriorly; the bronchi were injected and filled with mucus.

The heart was healthy.

The spleen was soft and pulpy; the other abdominal organs healthy.

Remarks.—The use of the cold bath in this case was undoubtedly always temporarily successful in reducing the temperature, and the patient was invariably restored, whilst in the bath, from a state of delirium to one of consciousness. The other nerve symptoms, viz. tremor, subsultus, and facial spasm, also subsided.

One marked effect also of all the later baths was to produce wheezing, and sibilus was heard on auscultation after the patient's removal from the bath. These symptoms, however, always subsided within a few hours, until towards the close of life, when they became continuous, and it was on this account that the temperature of the last bath was not artificially reduced, but only allowed to cool down naturally. The cold baths I have little doubt prolonged the patient's life, not only by preventing that great rise of temperature which would probably have terminated his existence in a few hours, but also by removing, more or less completely for a time, the severe nerve symptoms which preceded and accompanied the high temperature. Similar symptoms having preceded the hyperpyrexia in each of the three or four cases of this class which I have seen, I feel no doubt in my own mind that the hyperpyrexia is only one, and perhaps not the most important, element in these cases. In the patient whose case forms the subject of the present communication, the relief afforded to the nerve symptoms was even more striking than the reduction of temperature, and the cold bath was used on several occasions when the temperature was not particularly high, mainly for the purpose of relieving those symptoms which, as I have said, it

never failed to do. The unsuccessful result of this particular case does not therefore militate against the usefulness of the cold bath as a means of treatment, for the case was in fact from the first a most unpromising one. The temperature, it is true, never attained so great an elevation as in some of the other cases recorded which have been treated on the same plan, but the nerve symptoms were most unusually severe from the beginning; and though the patient's previous health was stated to have been good, he had been a hard drinker, and he belonged to a family which had shown a very strong tendency to rheumatic fever in a severe form.

III.—*A Case of Caries of the Knee-joint treated by the local application of Sulphuric Acid.* By J. Warrington Haward. *Read October* 25, 1872.

THE patient exhibited, J. G., æt. 8, first came under my notice at the Hospital for Sick Children in November 1870. He was then suffering from chronic synovitis of the right knee. He appeared moderately healthy, and exhibited no sign of scrofula or tubercle. The knee disease was of twelve months' duration, and had its origin in a fall, by which he injured the joint. He was kept at rest, and discharged in January 1871 free from pain, with the joint in a splint.

He was, however, re-admitted in May of the same year. The joint had in the meantime become rapidly worse, abscess had formed and burst, and his health had much deteriorated: he was suffering much pain. The joint was more freely laid open and kept on a splint, and he was given supporting diet and medicine. He went on from bad to worse however, and his health was rapidly giving way; so much so that, although it was evidently desirable to rid him of the disease as soon as possible, it seemed hopeless in such a state to attempt excision. To give him, however, the best possible chance, and with the natural anxiety to avoid amputation in so young a subject, he was placed in the ward for chronic cases at our Branch Hospital at Highgate, with the hope that the favourable hygienic conditions there might aid him. He, however, only

became rapidly worse, and on July 24 my note of his condition is as follows:—'He is much emaciated, pale, and very weak; takes food ill, and is in much pain from frequent starting of the joint. There is considerable fever, and he has a wearied and anxious expression. The right knee-joint is much swollen, and discharges from openings on either side a large quantity of foul pus. Matter has also burrowed in the neighbourhood, and sinuses discharge both above and below the joint.' He was placed under the influence of ether, and I examined the joint with my finger, and found the ligaments destroyed, allowing free lateral motion, the cartilage gone over a great part of both articular surfaces, and the joint ends with numerous carious patches, and surrounded by the thickened and suppurating synovial membrane. The ends of the tibia and femur were but little, if at all, expanded, and although some of the sinuses opened far up the thigh, they all led into the joint, and not to any diseased bone above it. Now, having seen the excellent effects of the application of sulphuric acid to carious bone surfaces (as introduced by Mr. Pollock, and described by him in the 'Lancet' of May 28, 1870), I determined to try its effect in this case; and therefore, while the boy was insensible from ether, I applied freely to the carious joint ends, and of course necessarily at the same time to the suppurating synovial membrane, a solution of sulphuric acid—one part of the strong acid to two of water.

The constitutional disturbance was scarcely, if at all, increased by this proceeding, but at the end of a week numerous parchment-like sloughs came away through the openings into the joint, and the amount of discharge and the pain began rapidly to diminish, while at the same time his health as quickly improved. On September 18—i.e. two months after the application of the acid—my note is as follows:—'The sinuses have all healed, excepting one under the leg, from which there is hardly any discharge; he is free from pain, and quite cheerful, has gained flesh, and eats and sleeps well.' The joint was then put up in Scott's dressing, and kept on a splint till January, when, as the bones seemed firmly anchylosed, he was allowed to get up with a leather splint on. The shortening of the limb was now found to be half an inch. He has been walking about actively since then, and the joint remains quite sound and free from pain: he has an useful limb, upon which he is very active, and his health is now excellent.

This seems to me an interesting case of conservative surgery; but as this is the only one in which I have at present applied this treatment to a large joint, it will be best, I think, to abstain from any deductions from it. I wish, however, to express my high opinion of the results of the application of sulphuric acid to carious bone surfaces, a mode of treatment for which I think the profession is much indebted to Mr. Pollock. I have had numerous opportunities of observing its superiority to the gouging and scraping of such surfaces, proceedings which I think often set up more mischief than they are intended to remove. My experience of this case will, moreover, encourage me to repeat it in others of a similar nature; and I would point out that the cases to which it would especially apply are those which have had their origin in chronic synovitis and gone on to ulceration of the cartilages with *superficial* bone caries, in which, I believe, the acid is not only useful in destroying the diseased bone surface, but also the thickened synovial membrane; but I should not, of course, think of using it when the bone seems deeply diseased.

IV.—*Case of Syphilitic Paralysis, with unusually rapid Wasting and Repair of Muscles.* By F. E. Anstie, M.D. *Read October* 25, 1872.

JOHN C., æt. 32, coachman, sent to me on June 22 of this year by Mr. Lawson, from the Moorfields Ophthalmic Hospital. In June 1870 he first noticed double vision, three days later the left eyelid fell; there was complete ptosis. He applied to Moorfields, and was under Mr. Lawson's care till September 1871; he was treated with blisters to the temple and mastoid process, and iodide of potassium.

In September 1871 he went to Brighton, the ptosis and double vision being very much improved; they have continued to improve since that time, but even now there are slight traces of third nerve paralysis.

The history in regard to syphilitic disease is not perfectly clear. Twelve years ago he had what appears to have been only gonorrhœa; it was followed by suppurating bubo twelve months later, at which time there appears to have been a small soft chancre on the penis. Four or five years

ago, however, he states that he had a small sore with a thickening round it; and this perhaps corresponded to a scar that can be seen on the penis now. Has had a certain amount of papular eruption two or three times since that date; it was present when I first saw him in June last. He does not seem to have ever had it before the date of the supposed chancre.

The patient was in service at Brighton during the winter of 1871–72. During this time he began to notice what he supposed was rheumatic pain on the back and outside of the right upper arm, and found a rapidly increasing loss of the power of extension; but it was not till the middle of February last that he discovered that the muscle at the back of the arm was 'wasting away.' Did not apply for advice, however, till June, when he went to Moorfields, and Mr. Lawson kindly sent him to me as a curiosity. At this time the whole flesh on the posterior aspect of the arm had almost entirely atrophied away; there was scarcely any muscular substance of the triceps remaining; still, the few fibres that remained responded fairly well to the induced electric current. So little voluntary power was left, that when he held his arm doubled up I could prevent his extending it by the pressure of one finger. At this time the loss of power and the wasting was almost entirely confined to the triceps; but the man complained that when his hand got cold there was great numbness, and some weakness of opposing power, in the index finger and thumb.

This patient was immediately put upon treatment with the interrupted current, which, for the first week or two, seemed to produce but little impression. I then took the electrisation into my own hands instead of entrusting it to my clinical clerk; and from the middle of July to the middle of September Faradised him, at first every day, and then three times a week. The triceps very quickly began to improve, and at present is about three-quarters of its proper size, and its power has remarkably increased; at present, I can only with a powerful exertion prevent the man from extending his arm. Soon after I had commenced the treatment, the man called my attention to the fact that the extensors in the forearm were beginning to lose power and to waste, and after this, in rapid succession, followed considerable wasting of the flexors on the front of the forearm, of the pectoralis major, and (in slight degree) of the deltoid. Each muscle that showed signs of failure was immediately

attacked with Faradism; the application was entirely local, both conductors being placed on the belly of the affected muscles. Under this treatment, with a short preliminary course of iodide of potassium, the patient was treated by me personally till the middle of September, and was then left to his own management, his wife having been taught how to apply the Faradisation for him. But he is really very nearly well, and expects to resume his work very soon.

I have brought this case forward, not merely or chiefly on account of the apparently successful results of treatment, but because the clinical course of the affection is unlike anything which I ever saw before. The remarkable fact was the extraordinary rapidity with which individual muscles wasted and were again repaired. The mass of flexor muscles on the front of the forearm lost bulk to such an extent that you might have put a fair-sized walnut and a half into the cavity, and this cavity was again nearly filled up within the space of not much more than three weeks. The extensors on the back of the forearm were atrophied so that deep grooves were marked in them, and were again restored almost to their normal state in about the same space of time.

The pectoralis major underwent changes almost as rapid, in each direction. Some of these processes took place after the iodide of potassium had been altogether suspended, and therefore cannot have been influenced by that agent. And though I have every reason to think that the Faradism really played an important curative part, I yet hesitate to believe that the whole of the cure was due to its action, and doubt whether a part of the therapeusis was not spontaneous. The plainest and least disputable portion of the curative effects of the interrupted current, was the effect upon the triceps muscle; here the atrophy was so complete, and the improvement from the first use of the current so obvious, that one can hardly doubt that electricity chiefly produced the happy result.

V.—*Case of Cystitis, with extreme pain and incontinence of urine; treated by the Injection of Opiates into the Bladder. Recovery.* By J. Cooper Forster. *Read October* 25, 1872.

CATHERINE C., æt. 4, admitted to Charity 28, Guy's Hospital, October 18, 1871. Twelve months ago the mother noticed a slight discharge from the vagina, with a small quantity of blood in the urine; the child seemed also to suffer pain and strained very much when she passed water, while she would often stand sideways on one leg, this appearing to give her ease. She has been at one of the children's hospitals, but has received no benefit.

On admission.—The child passes blood in small quantities in the urine, which is turbid, but not offensive. She suffers sudden paroxysmal pain, which is apparently very severe, as in a moment she will stop laughing or playing and begin to cry violently, with a desire to pass water. If the vessel is not brought directly, she passes it into the bed or on to the floor. Sometimes the pain goes off almost immediately after emptying the bladder, at others it lasts for some hours, when she crouches down on the floor with legs and thighs flexed, and cannot by any means be coaxed out of that position.

She was ordered: Potassæ bicarb. gr. v., Tr. hyoscyami ♏ iii., Aq. ad ʒii. t. d. sumend. She was carefully sounded under chloroform, but only roughness of the bladder detected at one spot.

November 3.—The urine is still cloudy, and contains both blood and pus, with bladder epithelium. Sounded again; no stone felt.

Potassæ bicarb. gr. x., Tr. opii. ♏ ii., Aq. ad ʒii. t. d. sumend. A purgative was given at bed-time.

Another fortnight, no better.

November 16.—Tr. opii. ♏ iii., Ol. Morrhuæ ʒi. t. d. s. was ordered.

24.—Much the same. The opium seems to relieve her a little, but whenever urine or a motion is passed, she is in great pain. Sounded again, and the same rough spot in the bladder felt. A small whitish clot was passed by the side of the sound from the urethra. This, when examined microscopically, proved to be a perfect layer of epithelium

from the bladder, entangling in its folds a large quantity of pus cells. This points rather conclusively to some ulceration. The vagina and rectum were also examined by the finger; nothing wrong could be felt. No tumour or stone to be felt in the pelvis. Mist. rhei co. ʒi. ter die.

December 2.—Much the same; and thus she continued till January 5, when an injection into the bladder of an ounce of water, containing five minims of Tinct. opii., was commenced. This was continued daily, the solution being left in the cavity, and on January 17 she was quite well. The injections were discontinued.

January 24.—She left the hospital; no recurrence of pain since the last date.

The obscurity of this case will, without any comment, recommend it to the Society as one well suited to discussion. The age of the patient, the absence of stone in the bladder, the correctness or otherwise of the diagnosis—all are points worthy of consideration; but, passing these by, I would especially obtain the opinion of the members concerning the treatment adopted, and as to the soundness of the physiological principle which such treatment involves, viz. the permeability of the mucous membrane of the bladder to drugs administered by its surface. There can, I think, be no doubt that to the injection of opium in this case, and the consequent absorption of that drug, the cure which resulted must be attributed. While to back up this fact it may be asked, if the rectum has the power of absorbing substances brought in contact with it, why should not the bladder possess a similar power? Moreover, it would, I think, be hard to adduce a single example from other parts of the body of a mucous surface failing to act in some measure as an absorptive area at the same time that it exercised its function of secretion.

Though I am unable at the moment to lay my hand upon the exact reference, I believe I am not incorrect in saying that Sir Henry Thompson disputes this absorption of drugs on the part of the bladder. Dr. Hicks, on the contrary, in some lectures published in the 'Lancet' two or three years back, argues strongly in its favour; but the latter most probably made his observations in the female. Sir H. Thompson, it may be presumed, has practised on the male; and if we consider the length of the urethra in the two sexes, the attendant pain and difficulty in applying the remedy thoroughly in the one case, and the comparative

facility of its application in the other, we may account not improbably for this difference in opinion. A further point also to be taken into consideration is, as to the relative absorptive capability possessed by the healthy and the diseased viscus.

My own opinion is very strongly in favour of the supposition that the bladder will, under almost any circumstances, take up materials that are brought into contact with it in a fit state for absorption.

The child whose case I quote, at any rate illustrates some good effect wrought by the drug, for after a treatment of ten weeks' duration by various drugs in Guy's Hospital, and no doubt other appropriate treatment at the Children's Hospital, she had obtained not the slightest relief, while after twelve days of opium treatment she was perfectly cured.

In cases of cystitis more especially, with which all here must be familiar, I scarcely think this local application of opium is sufficiently practised; and I venture to think that if it were carried out thoroughly, it would often be attended with rapid and permanent advantage to the patient. Of one of a class of cases in which I am in the habit of applying this remedy, the notes I have read are typical. It has not, however, often been my lot to have made use of it in children so young as this.

In conclusion, the questions I would address to this Society to-night are:—

1st. As to the recognition of the capability of absorption on the part of the bladder in the healthy and diseased conditions.

2nd. What experience the members can supply of a similar treatment in corresponding cases, its success, or the reverse.

VI.—*Case of Epitheliomatous Tumour of the Upper Maxilla treated by excision of the disease, and the application of Escharotics.* By George Lawson. *Read November* 8, 1872.

Henry B., æt. 65, was admitted into the Middlesex Hospital on March 18, 1872, suffering from a tumour of the left upper maxilla. He had always been a very healthy man, and no member of his family had ever suffered from cancer.

History.—About two months previous to his admission, in January of the present year, he began to suffer from severe toothache in the left upper jaw, for the relief of which he had at short intervals four partially decayed teeth removed, but without gaining any relief. Shortly after this a swelling appeared in the mouth above the alveolus, corresponding with the site from which the teeth had been extracted. The pain steadily became more severe, and a few weeks later the face over the left upper maxilla gradually increased in size. He now applied to the Middlesex Hospital, and was admitted as an in-patient.

State on admission.—There was a soft elastic tumour over the superior maxilla of the left side about the size of a small egg, and evidently growing from within the antrum. The bone over it had been partially absorbed, and the tumour was pressing upon the skin, which in places were adherent to it. He could blow clearly through the left nostril, showing that the cavity of the nose was not encroached on by the growth. There was no displacement of the eye. On looking into the mouth, there was a small soft tumour bulging above the alveolus about the size of half a walnut.

An exploratory incision was made into the soft mass protruding into the mouth, when some pus, mixed with blood and soft grumous material, escaped. The finger, passed through the opening, came upon a soft tumour occupying the whole interior of the antrum. At first the patient seemed to have received relief from the exploratory incision, but this was clearly due to the escape of the pus, and from more space being afforded for the tumour to grow without pressing so firmly on the adjacent parts; but in about a week the pain returned with the same severity, and the skin of the face over the tumour inflamed and ulcerated, and through the opening a fungoid mass protruded. I now determined to excise the growth, with all the integument that was included in the disease, and to apply freely the actual cautery, and afterwards the chloride of zinc paste spread on small pieces of lint. This I accordingly did, and in a few days afterwards large sloughs came away. Over the greater part of the space thus treated, healthy granulations soon sprang up, and portions of bone destroyed by the escharotics gradually became detached, and were removed. Twice during the progress towards convalescence the growth began to recur, and on each occasion the patient was put under the influence of chloroform, and the hot iron and

afterwards the chloride of zinc paste was applied to the suspicious looking regrowth.

On July 5 he was discharged the hospital, all trace of the disease having been apparently eradicated. Since that date the man has gained strength, and there has been no recurrence of the disease. I would add that, after the smart of the first operation had subsided, the patient was freed from all pain.

Remarks.—I bring this case before the Society, as it exemplifies an efficient mode of dealing with a large epitheliomatous growth from the antrum without the danger to life which a complete removal of the upper maxilla by the knife, together with all the integument which was involved in the disease, would have engendered. The deformity also which has resulted from such an operation as this patient has undergone, is far less than would have been produced by an equally efficient operation by the knife, for, with the hope of preventing a recurrence of the disease, the surgeon would have had to cut widely, and to have taken away more than has been absolutely destroyed by the escharotics. At the time of my first applying the chloride of zinc paste, I thought it probable that some fragments of the disease were still remaining, as in the performance of the operation I worked from the centre of the growth towards its circumference, and having reached what appeared its outer limits, I left it to the escharotics to destroy any portions of the growth that might be still remaining.

In the after-treatment I watched carefully, day by day, the granulations as they sprang up after the separation of the sloughs caused by the escharotics; and when any recurrence of the growth showed itself, I placed the patient under chloroform, and again applied the escharotics, and at last succeeded in completely removing the disease. The patient left the hospital on July 5th, and has since that date continued perfectly well. The cases of soft tumours of the upper maxilla which seem peculiarly fitted for this mode of treatment are those in which the hard palate has not been invaded by the disease.

In considering the value of a limited cutting operation, combined with the free application of escharotics, for the removal of cancerous growths from the face, it must be remembered that patients advanced in life stand large cutting operations very badly, whilst they will bear with but little shock the destruction of large growths by escharotics.

As a further illustration of the advantages of combining the use of the chloride of zinc paste with the excision of the tumour, I have requested a poor woman to show herself to the Society to-night, from whom, in January 1866, I excised a large scirrhous growth from the orbit, and afterwards freely applied the chloride of zinc paste,* and with such good effect that the whole orbit came away in the single piece I now show you.

VII.—*On the value of Puncture in Hydatid Tumour of the Liver.* By ALFRED DUFFIN, M.D. *Read November* 8, 1872.

THE following series of cases is intended as a contribution towards the clinical history of the treatment of hydatid tumours of the liver, and especially to illustrate both the advantages and the accidents incident to the method of puncture with the fine trocar and canula. The series consists of five cases that have occurred under my own observation, and of two that I am enabled to add through the kindness of Dr. George Johnson.

CASE I.

My first case is that of S. R., æt. 27, a waiter; applied October 13, 1868. Swelling had been noticed in the right hypochondrium about six weeks; it had become painful for about a fortnight, and was decidedly increasing. A rounded prominence occupied the lower half of the right thorax in front, the right hypochondrium and part of the axillary region. The hepatic dulness descended from the fourth intercostal space to within half an inch of the umbilicus. In the mammary line the vertical height of the hepatic dulness was 9½ inches, at the xyphoid cartilage 6 inches, at the anterior edge of the right axilla 8 inches. At the posterior border of the axilla the vertical measurement only gave 4 inches. Both the superior and inferior edges of the dull space presented a markedly convex surface. The right semicircumference, taken at the sternal notch, was found to exceed that of the left by 1½ inch.

* For history of the case, see 'Pathological Transactions,' vol. xviii. p. 233.

Immediately below the seventh rib the abdominal wall was considerably bulged, the prominence measuring 5 inches vertically. The apex of the heart was dislocated an inch outwards. Breath sounds on the right side of the chest were only heard as low as the fourth rib. The tumour was immovable on respiration, but it was thought that this might be due to the stretching of the diaphragm by the upward growth of the mass. An obscure sense of fluctuation was felt opposite the ninth costal cartilage. I requested my friend Mr. Henry Smith to puncture with the fine trocar and canula at this point. He withdrew 28 ounces of clear transparent fluid at one jet. The liver dulness had then receded 1½ inch vertically, and the organ had become very tender. The abdominal muscles were fixed by a piece of broad strapping and a flannel bandage, and a full opiate was administered. In the evening the patient had two rather sharp rigors. He lay with the knees drawn up, in dorsal decubitus. The belly generally was slightly tender. P. 104, T. 100°. The next day these signs had abated. On the fourth day after the tapping all annoyance had ceased, and the pulse and temperature had descended to the normal standards. The hepatic dulness had retired from 9½ to 6½ inches vertically.

A fortnight subsequently, the pulse and temperature continuing normal, the liver dulness was found to have descended a further inch, and this fact was confirmed at the expiration of another fortnight. A month subsequently, however, the liver dulness was found to have retreated fully an inch, and four months later, still a further retreat of another inch was demonstrated.

Case II.

Sarah B., æt. 26, admitted August 2, 1870. Swelling of the epigastrium had been noticed between four and five months. A dragging pain at the pit of the stomach had been experienced three weeks. A uniformly globular swelling was found to occupy the epigastric and right hypochondriac regions, being most prominent two inches below the xyphoid cartilage. The tumour was elastic, and fluctuated freely. In the right mammary line the vertical measurement was 7 inches, in the left it was 5½ inches, and in the right axilla 4 inches. The whole circumference over the greatest prominence of the tumour was 31½ inches. The apex of the heart was pushed up into the fourth interspace. Respiration was clear over the right chest in front as far as the fifth rib,

behind to the base of the thorax. Whilst the woman had been an out-patient, a distinct increase in the size of the tumour had been observed. I therefore requested Mr. Henry Smith to tap it with the fine trocar. Twenty-one ounces of healthy hydatid fluid were withdrawn. The puncture caused little distress.

In the evening, the temperature ran up to $100\frac{4}{10}°$, and after twenty-four hours there was a further rise to $102\frac{6}{10}°$, the pulse being 144. There was a patch of tenderness over the seat of the puncture, about the size of the palm of the hand; otherwise neither shivering, vomiting, nor any other sign to cause anxiety. Forty-eight hours after the operation the temperature had further risen to $103\frac{1}{5}°$, and the pulse continued very high, 136. Patient complained of nausea and of pain in the hypogastric region and loins. These parts were found moderately tender. A $\frac{1}{4}$ grain of morphia, subcutaneously, nevertheless gave a good night. On the third day the general abdominal tenderness had diminished, but the region of the liver was severely painful; the temperature and pulse had fallen slightly. On the fourth day the pain was confined to the hypochondriac region, but was still severe. The general situation otherwise unchanged. On the fifth morning decided amendment set in; the P. 90, the T. $100\frac{8}{10}°$. The tenderness over the liver materially lessened. From this time the woman continued to progress favourably. Sixteen days after the operation the dimensions of the liver dulness were again taken, and found to be almost identical with those reported previously to the puncture, the only difference being a retreat of 1 inch in the vertical measurement of the right mammary line. A week subsequently these facts were confirmed, but the woman feeling well, insisted upon leaving the hospital. I saw her again six months later, and found the hepatic dulness diminished in every direction. The heart occupied its normal position, all prominence in the epigastrium had vanished, and the vertical measurements had decreased uniformly 1-$1\frac{1}{2}$ inch each.

Case III.

Mary Ann S., æt. 39, admitted October 9, 1871. Four months previously she had applied among the out-patients, complaining of dragging at the pit of the stomach and nausea. The epigastrium was then found to bulge slightly, immediately below the cartilages of the seventh and eighth ribs on the

left side. A globular prominence, about 2 inches in diameter, could be felt; it could be traced into the liver dulness, and descended with inspiration. The hepatic notch could be felt entirely to the right of the tumour. A space of fully 3 inches separated the most dependent points of the liver from the umbilicus. Four months later, the epigastrium to the left of the middle line had become more prominent; the tumour had grown considerably towards the middle line, and its vertical measurement had increased at least 1½ inch. The costal arch on the left side had become slightly everted, although the apex of the heart had not been displaced.

The swelling still moved with inspiration, but had become tender; handling it induced violent movements of the recti and retching; no frictions were to be heard over it. The tumour had certainly trebled in bulk in the four months; the general health was in all respects excellent. Considering the rapid increase of the growth, its being in the left lobe of the liver, and having recently become tender, I thought best not to delay. Professor Wood kindly punctured the tumour an inch to the left of the linea alba, a few days after the woman's admission. The fluid was found to be more deeply seated than had been anticipated, the trocar descending nearly four inches from the surface before it was reached. A gush of about an ounce of clear, transparent liquid ensued, and then a sudden stop. A piece of shreddy membrane was, with some difficulty, dislodged from the mouth of the canula, and about ʒii. more fluid were obtained. A little further handling caused the evacuation of a few drops of opalescent fluid, which unfortunately got mixed with the clear, but nothing further could be got. About forty hours after the operation the patient had a smart rigor, followed by bilious vomiting and nausea. The epigastrium became painful and the breathing uneasy. The pulse and temperature ran up to 136 and 102° respectively; the tumour had become rather tender, but there were no evidences of general peritonitis. The tenderness became more decided, but no other material alteration occurred till the sixth morning from the tapping, when it was found that she had sweated during the night, the range of pulse varying from 110 to 120, and that of temperature oscillating between 102·5° and 104° F. The nocturnal perspiration increased. On the tenth day I found the outline of the tumour much altered; it had become broader and flatter, and the hepatic edge had descended fully an inch towards the navel, and was more decidedly rounded than before. It had also ceased

to move with respiration. Another three days brought the edge of the liver almost to the umbilicus, and caused the swelling to become doughy to the touch. I therefore requested Professor Wood to puncture the tumour with a large trocar. This he did the next day (November 3), the fourteenth from the first puncture, selecting a point about an inch below the previous one. A trocar (No. 7 catheter) was employed, and about 9 ounces of greenish, offensive pus, mixed with a large number of collapsed hydatids, were removed. The trocar was left in the wound with its opening free. The next day a general rally set in. There had been some sleep, and the pulse and temperature had fallen to 100° and 98·5° F. respectively. The next three days between 3 and 4 ounces of pus and hydatids were evacuated daily. The cyst, however, did not diminish in size, and the febrile signs again running up, a trocar (No. 14 catheter) was fixed in the wound. Six ounces of pus and collapsed hydatids were with difficulty withdrawn. The next day, the fourth from the second tapping, the House Physician with much labour evacuated 17 ounces of mixed pus and hydatids from the cyst. A good night, and a fall of pulse and temperature were the results. About half a pint of a 2 p. c. solution of carbolic acid was now daily injected. In two days more the pus became free from fœtor. Collapsed cysts continued to be evacuated daily in abundance till the tenth day from the second tapping, the daily secretion of pus being 4–6 ounces. The suppuration now diminished, the tumour receded and the general strength rallied. On the forty-fourth day from the second puncture the fistula had completely healed.

Case IV.

Louisa C., æt. 29, applied January 5, 1871. Rheumatic achings in the stomach dated back four months: prominence of the pit of the stomach six weeks. On a physical examination, the following results were obtained:—

The vertical dimensions of the liver in the line of the right axilla was 9½ inches; in the right mammary line, as also in a line taken through the xyphoid cartilage and the umbilicus, they exceeded 12 inches. Through the left mammary line, on the other hand, the vertical height was only 7½, and at the line of the left axilla but 5 inches. The lower edge of the organ presented a very marked curve. Descending from

the right lumbar region it closely followed the line of the crest of the ileum, being only just above it, to near its anterior spine. The line then became tolerably horizontal till a notch was reached about 2 inches below the umbilicus. Beyond this a marked, rounded bulge was traced, the line of which extended about 2 inches further to the left, and then suddenly retreated upwards in the line of the left mamma to a point about one inch below the costal cartilages, beneath which it subsequently became lost.

The upper, or thoracic line did not seem encroached upon. Two large, rounded, ill-defined prominences were observed in the epigastrium and right hypochondrium respectively. They appeared to merge into each other; a shallow depression separated these from the inferior portion of the organ; the left or ascending edge of the dulness was much rounded; the rest of the liver edge being nearly normal. The circumference over the greatest prominence was 32 inches. It thus appeared likely that two or three distinct cysts existed. The whole mass moved freely with respiration. The general health was excellent. As there seemed no evidence of the existence of adhesions in this case, I determined in the first instance to try the effect of a simple puncture of one of the cysts, with the removal of just enough fluid to confirm the diagnosis. Mr. Henry Smith employed the fine trocar, and withdrew about two drachms of the ordinary hydatid fluid. My object in this proceeding was to afford the cyst a chance of draining into the peritoneal cavity, so as to test the hypothesis advanced by Dr. Hilton Fagge, that in his electrolytic operation the cyst might possibly be only punctured, and that simple normal hydatid fluid might drain into the peritoneum with impunity. I considered Dr. Fagge's observations sufficiently decisive to warrant my attempting this with *malice prepense*. Should I fail from any cause in obtaining percolation, I wished to ascertain how small an injury would suffice to destroy the life of the parasite. The sequel showed that I had failed in my first object, but succeeded in my second.

In the evening there was a slight rise of both pulse and temperature (100 and $100\frac{2}{10}°$), together with a moderate sense of tension and aching in the side and back. All signs of annoyance ceased within twenty-four hours, the pulse and temperature becoming almost normal. Neither then nor subsequently was there any evidence of fluid in the flanks, peritonitic tenderness, or nettlerash. During the following eight days the temperature continued on an average about a

degree above the normal, and the pulse was slightly quickened. Only a dull sense of aching remained in the tumour. The dimensions of the liver did not vary in the slightest. On the ninth day the patient became restive, and threatened to leave unless something further was done. Mr. Smith therefore again tapped the cyst, and on this occasion withdrew some 28 ounces of slightly opalescent fluid. The latter, on heating, threw down a fine cloud of albumen, amounting, after long boiling, to about $\frac{1}{10}$. The fluid was faintly alkaline, gave a bulky precipitate of chlorides, and had a sp. gr. of 1014. Microscopically, abundance of hooklets were found, but no entire scolices. There was also a considerable deposit of granular detritus and fat globules. No sign of constitutional disturbance followed the puncture.

Five days later the vertical measurement of the liver had decreased 5 inches, the right axillary and xyphoid measurements being 7 and $6\frac{1}{2}$ inches respectively. The greatest circumference was reduced to $29\frac{1}{2}$ inches, and in the line of the right axilla we had 6 instead of $9\frac{1}{2}$ inches vertically. Three months subsequently I again saw this woman, and found that the liver vertically was not more than an inch in excess of the normal height.

Case V.

My fifth case is that of John M., æt. 61, whom I saw with Dr. Whitmore at the Kensington Workhouse Infirmary on October 3 last.

The man, a hearty, ruddy pauper, had for about a month noticed that the pit of his belly was swelling. There was a considerable bulge of the epigastrium and of part of the right hypochondrium, caused by a large globular tumour, across which free, and apparently very superficial, fluctuation could be made out. The chief measurements obtained were as follows:—

The vertical height of the hepatic dulness in the middle line was 10 inches. The circumference, taken at the xyphoid cartilage, was 33 inches; at the umbilicus, 30; and at the crest of the ileum, 28 inches. On auscultation, I found abundant frictions not only over the whole of the swelling, but far away towards the axilla. Nevertheless, the tumour moved with inspiration. These considerations led me to apprehend that rupture into the peritoneal cavity might be imminent. I therefore urged Dr. Whitmore to puncture at once. He inserted the fine trocar at the outer edge of the right rectus.

Seventy-two ounces of milky fluid were withdrawn in one jet. This fluid was found to be semi-solid with albumen, to have a sp. gr. of 1016, and to deposit fully one-third of pus. After the operation the prominent bulge in the pit of the stomach had gone, the circumference of the abdomen having decreased by upwards of 4 inches, and the liver dulness had retreated full 3 inches (i.e. from 10 to 6½ inches). A slight sense of soreness was experienced in the tumour, but no other inconvenience. The temperature ran up in the evening to 103·7°, the pulse to 120, but no additional signs of irritation existed. Forty-eight hours later the temperature had descended to within 1½° of the normal and the pulse to 95. The only symptom of note which occurred in this interval was that the man was once sick after taking beef-tea. On the sixth day from the puncture the temperature was normal, and the man asked to be put back on his ordinary diet. He subsequently recovered without a bad symptom of any sort; the liver dulness did not exceed the normal limits when he was last seen. I will now give a brief analysis of Dr. Johnson's two cases.

The first, William N., æt. 50, was admitted May 11, 1866. During three years he had suffered pain in the right side. Four months before admission Dr. Conway Evans detected a tumour in the right hypochondriac and epigastric regions. When admitted, a long globular mass occupied the greater part of these and of the umbilical region reaching across to the left side. It was most prominent just below the 7th and 8th right cartilages. The hepatic dulness reached the level of the umbilicus, but did not seem to encroach materially in the thorax.

Coarse friction sounds could be heard over a portion of the tumour, whilst the patient complained of great pain in that situation. After a few days he was troubled with occasional vomiting. At a consultation held four days after the man's admission, it was decided to defer operation till adhesions should have formed. A fortnight later, on June 1, Mr. Wood, by means of the small trocar, withdrew 64 ounces of the usual clear hydatid fluid. The patient passed a bad night; he complained of severe aching in his loins, and his pulse rose to 112. Two days later Dr. Johnson inserts the following note into his book: 'No bad symptom. Less pain than before the operation. Says he slept better last night than he had done for the last three years.' Steady recovery ensued. When the man was seen three weeks subsequently, the size of the liver but little exceeded the average.

The second is that of James T., æt. 32, admitted Feb. 28, 1867. Tumour had been noticed two years and a half; it had become painful during the last ten days. On admission it was about the size of a fœtal head, occupying the epigastric and part of the right and left hypochondriac and umbilical regions. A friction sound was also heard over this tumour. The cyst was punctured by Mr. Wood in the ordinary manner, and 11 ounces of clear citron-coloured fluid were with a little difficulty removed, portions of hydatid membrane obstructing the trocar. The man left the house eight days later, with his liver undiminished in size. No special annoyance had followed the tapping. Two months afterwards he was re-admitted. The tumour had again become painful for a month, and had notably increased in that time. The clerk's notes unfortunately do not allow of our comparing the sizes and shapes of this tumour. The patient was feverish, losing flesh, and complaining of severe pain in the loins and pit of the stomach. Two days after admission he was again tapped by Mr. Wood, this time with a large trocar. Twenty-five ounces of thin pus and an enormous number of collapsed hydatids were evacuated. A pint of warm water was injected, and again allowed to run out of the cyst. Material relief followed, but on the fourth day from the operation the old pain in the loins had returned. On the sixth day the swelling was again found to be rapidly increasing and the fever running up; the wound, which had been allowed to close, was therefore re-opened; 18 ounces of sanious, putrid pus were removed, and a drainage tube was placed in the cyst. The sac was then washed out with Condy and water. Very great relief followed. From this time the patient did well, the cyst continued to discharge freely, hydatids coming away abundantly for the first five days; the feverishness subsided; the cyst gradually contracted up. The only difficulty experienced was from the occasional blocking up of the drainage tube by a shred of membrane. At the end of two months the man left the house, the fistula still discharging. All secretion ceased seven months from the date of the second tapping. When seen a month after this, the liver dulness was of normal dimensions, but there was a deep depressed scar over the site of the former fistula.

Remarks.—I. In three of the seven cases secondary enlargement of the liver was observed to come on about 10–14 days after the puncture.

It was found to increase during 2–4 weeks, and then

steady subsidence set in. That the changes occurring about the cyst during this interval are probably inflammatory, seems to result from the characters of the fluid withdrawn by a second puncture on the ninth day in the case of Louisa C. One-tenth of albumen was found in this fluid, and its sp. gr. was 1014. Unless we allow for the possibility of this event, we may be tempted to tap the cyst a second time unnecessarily. We may thus possibly excite the object of our fears, suppuration. I cannot but think that this was the case in an instance reported from the Lincoln County Hospital in the 'Lancet' for July 10, 1868. The tumour was of moderate size; six ounces of clear fluid were removed on the first puncture; no bad symptoms followed. Eleven days later, the cyst again seeming to enlarge, a large-sized trocar was used, and the aperture kept open, 12 ounces of turbid fluid drained away, the latter part tinged with blood. Slight suppuration followed. The woman was well in six weeks.

II. In three of the cases frictions were found over the tumours. In the first of Dr. Johnson's cases this was regarded as a sufficient reason to defer operation. In the other two, the recent lymph was punctured through without inducing any bad results.

III. My fifth case, John M., I take to be a very valuable example how far puncture may, under favourable circumstances, be applicable. The tumour was a very large one, frictions existed all over it and its neighbourhood. The fluid withdrawn contained one-fifth of pus, and was semi-solid with albumen. Nevertheless, the man recovered after three days' moderate febrile reaction. Such brilliant results are, of course, not to be anticipated; but they show that the presence of simple irritation in the sac does not, in itself, demand a free or permanent opening. The characters of the fluid in my fourth case (Louisa C.), if coupled with the fact that the second puncture led to no bad effects, also confirm this view.

IV. Two of the seven cases resulted in suppuration. In both, the parent cysts were filled with innumerable daughter cysts. The amount of fluid withdrawn on the first puncture was in either case very small.

On referring to the histories of fifteen cases treated by simple puncture, and in which suppuration followed, I find that in seven instances the amount of fluid first withdrawn was small, only once reaching 11 ounces. In six cases the amount was 60 ounces or upwards, or else the cyst

was tapped on successive occasions, owing to its large size. In four of the instances in which the quantities removed were small it is specially noted that the daughter cysts were very numerous. I am therefore inclined to associate the accident of suppuration either with the large proportion of secondary cysts or with the enormous bulk of the tumours. Whenever suppuration ensues, it is our duty to evacuate as much pus and as many hydatids as we are able, at the earliest possible date. We shall thus be all the more likely to gain assistance from the elasticity of the sac. The opening into the sac should be a free one, otherwise the difficulty experienced in removing the collapsed hydatids may be very considerable. A trocar with a bore of a third of an inch will be found none too large; it will also render the subsequent irrigation of the cavity comparatively easy. Days of hesitation, when suppuration is fairly established, may mean weeks of chronic discharge hereafter. Prior to a very decided increase in the dimensions of the tumour, or to the supervention of hectic, it may be very difficult to say when pus has formed, but I would suggest a continuance of the temperature of 103° after the first week as a very ominous sign. The fear of wounding the peritoneal cavity in this secondary operation, need, I believe, trouble us little. The preliminary puncture will generally insure a zone of adhesions, which will be increased as the abscess approaches the surface. I presume that all will agree that the sac once opened, its contents should be kept sweet with an antiseptic injection.

The data we possess to recognise the presence of a numerous colony of secondary cysts are scanty in the extreme. I can only suggest the rapid growth of the tumour and the early occurrence of pain in a comparatively small growth that is devoid of fluctuation or thrill.

Lastly.—In the course of my fourth case (Louisa C.) you will have observed that I first simply punctured the cyst, and aimed at percolation into the peritoneum. This I was led to attempt in consequence of the very interesting results obtained by Dr. Hilton Fagge in his treatment of these tumours by electrolysis, as reported in the 'Medico-Chirurgical Transactions,' vol. liv.

Speaking of the *modus operandi* of electrolysis in these cases, Dr. Fagge suggests two alternatives. Is it by allowing leakage from the cyst into the peritoneum or other neighbouring cavity, or by the direct action of the electrolytic

current, that the reduction is effected? In four out of the eight cases that he had observed, there can be little doubt that the fluid leaked freely into the peritoneal cavity, and once into the pleura. I believe that it is now pretty well established that this may take place in the majority of instances, without greatly jeopardising the patient.

M. Jules Simon, in discussing the question of tapping with the fine trocar, says: 'The watery hydatid liquid may be allowed to filter through the small wound in the cyst, and fall into the peritoneum. Sometimes this membrane rests indifferent to its contact, at others it inflames slightly. Usually the puncture presents no danger.' At the Children's Hospital, however, it was followed this very year (1871) by the signs of a peritonitis, which, alarming at first, yielded very readily. Hydatid fluid has even been poured, rapidly, and in large quantities, into the peritoneum without causing death. Dr. Fagge quotes the experience of Dr. McGillivray, M. Malgaigne, and M. Giraldès to this effect. In the last edition of the 'Dictionnaire de Médecine et de Chirurgie Pratiques,' Dr. Finsen of Iceland is quoted as having observed this accident six times, twice only with fatal results. I have had two opportunities of ascertaining that the peritoneums of rabbits and guinea-pigs will tolerate the presence of a large quantity of healthy hydatid fluid, without presenting subsequently the least trace of peritonitis. Remains the question: is it desirable to aim at this mode of treatment with reference to the human peritoneum, or is it better to remove the fluid at once? Again, can we, even if we will, always allow the fluid to trickle into the peritoneum? The frequency of adhesions over these cysts is well known. Can we also be sure that our hydatid fluid is perfectly normal? My case No. 5 showed one-fifth of pus, although the man's temperature and pulse were of the physiological standard, and all his functions were performed satisfactorily. In my third case, a part of the fluid was milky, although there was no evidence of inflammation about the cyst beforehand.

The second alternative opened up by Dr. Fagge is the direct action of the galvanic current. In two, if not in three of his cases, percolation seems to have been absent. Inflammation of the cyst-wall is probable. How was this set about? We know how small an injury will sometimes suffice to destroy the vitality of one of these cysts. In the case of Louisa C., only ʒii. were removed from an enormous cyst, yet a subsequent puncture showed that inflammatory

changes had followed. In Dr. Playfair's case, quoted by Dr. Fagge, simple acupuncture seems also to have been effectual.* Could we afford to rely in the majority of cases on simple acupuncture?

Cases are frequent in literature where small amounts of hydatid fluid have been removed, but where the cyst has continued to grow. I need but mention the two quoted by Frerichs. Whilst, however, admitting that a simple puncture may often fail us, I do not think that it at all follows that we should endeavour to empty the cyst completely. The removal of a half or even a third of the contents is probably ample. Too thorough evacuation of the fluid entails dangers of its own; the tumour must necessarily be freely handled; portions of the cyst-wall may become detached, and troublesome hæmorrhage ensue. I am also inclined to think that the amount of secondary fever set up may bear some relation to the direct injury inflicted on the exo-cyst at the time of the operation.

Remains, then, the direct action of the galvanism. Has it any intrinsic value of its own? About this I do not pretend to express an opinion.

But Dr. Fagge argues, whatever its *modus operandi*, electro-puncture does not entail the danger of suppuration. I would observe that six of Dr. Fagge's cases were under 15 years old. I am only aware of one instance in which suppuration has followed the small trocar operation at so young an age. It occurred in the practice of Dr. McGillivray, and is mentioned in the 'Australian Medical Journal' for July 1872. The patient, a schoolboy, 13 years of age, was once tapped with the fine trocar, suppuration ensued; the large trocar was employed, and the lad did well. In the second place, most of the cases that have suppurated fall into two classes: either the daughter cysts were very numerous, or the sac has been of unwieldy dimensions. Would Dr. Fagge's operation have fared any better in these cases?

I think that, in the present state of our knowledge, the

* Dr. Fagge has kindly enclosed me the following: 'Child in the Evelina Hospital. There were two cysts. I treated both of them at the interval of a few days by acupuncture, without electricity. The temperature rose by 3½° F. the night after each operation, and remained a degree or two above the normal for two or three days. The child was discharged eleven days after the operation on the second cyst. This was in August 1872. One cyst has now disappeared, the other can be obscurely felt. I shall wait at least a year before doing anything more, even if it does not continue to shrink.'

alternative rests between electro-puncture and tapping with the fine trocar. Have we at present facts sufficient to turn the balance in one or the other direction?

TABLE OF CASES OF HYDATIDS OF THE LIVER TREATED BY TAPPING WITH THE FINE TROCAR SINCE THE PUBLICATION OF DR. MURCHISON'S WORK ON THE DISEASES OF THE LIVER. CASES DERIVED FROM PUBLISHED BRITISH AND AUSTRALIAN SOURCES.

Author	Sex and age	Character of Tumour	Ounces removed	Result	Remarks	Sources
Dr. Sibson .	F.	Two tumours tapped in succession with fine trocar	—	Cure	—	Lancet, July 18, 1868
„	C.	Similar case.	—	„	—	„
Mr. Fearn .	—	Very large .	85	„	—	Brit. Med. Journ Nov. 7, 1868
—	—	Second tumour punctured four months later	40	„	Whey-like contents	
Dr. Heaton .	F. 23	—	40	„	—	Brit. Med. Journ. April 3, 1869
Mr. J. H. Ward	F. 36	Large . . .	57	„	A second cyst burst eleven months later into bowel	Lancet, April 2, 1870
Mr. T. Sympson	M. 29	—	16	„	—	Brit. Med. Journ. April 2, 1870
Dr. Southey .	M. 24	Very large; free fluctuation	53	Doubtful	signs of refilling	Brit. Med. Journ August 6, 1870
Dr. Anstie .	F. 6	Small . . .	7	Cure	—	Lancet, Aug. 13, 1870
Mr. Whittel .	—	Movable . .	10	„	Adelaide Hospital	Lancet, Oct. 15, 1870
Dr. G. Hett .	C. 7	—	14	„	—	Lancet, Feb. 18, 1871
Dr. Ransom .	F. 20	Moderate. .	4½	„	Urticaria for some days; probable percolation into peritoneum	Brit. Med. Journ. September 28, 1872
„	F. 21	Large . . .	13½	„	Urticaria . .	„
„	F. 25	Very large; bi-lobed	33 72	Cure; complicated by jaundice	Fluid bilious and albuminous on both occasions	„
Dr. McGillivray	M. 51	Tapped twice	—	Cure	—	Australian Med. Journ. July 1872
„	M. 8	—	—	„	—	„
„	F. 28	—	—	„	—	„
„	F. 30	—	—	„	—	„
	F. 46	—	—	„	—	„

TABLE OF CASES OF HYDATIDS OF THE LIVER—*continued.*

Author	Sex and age	Character of Tumour	Ounces removed	Result	Remarks	Sources
Dr. McGillivray	M. 59	—	—	Cure	—	Australian Med. Journ. July 1872
,,	M. 49	—	—	,,	—	,,
,,	M. 32	—	—	,,	—	,,
,,	M. 3	Tapped twice	—	,,	—	,,
,,	F. 32	—	—	,,	—	,,
,,	F. 13	Two cysts .	—	Doing well	—	,,
Dr. G. Johnson	M. 50	Large . . .	64	Cure	—	Quoted in paper
Dr. Duffin . .	M. 27	Moderate. .	28	,,	—	,,
,,	F. 26	,,	21	,,	—	,,
,,	F. 29	Large . . .	28	,,	Fluid opalescent	,,
,,	M. 60	Large . . .	72	,,	Fluid partially purulent	,,

TABLE II.—SECONDARY SUPPURATION.

Author	Sex and age	Character of Tumour	Ounces removed	Remarks	Result	Sources
Mr. T. Sympson	F. 39	Large . . .	60	Five weeks later, fresh puncture; fluid partly purulent; tube fixed	Cure, four months	Brit. Med. Journ. April 30, 1870
Lincoln Hospital	F.	—	6	Case referred to in paper	—	Lancet, July 18, 1868
Dr. McGillivray	M. 13	Tapped twice	—	Suppuration; tapped with large trocar	Cure	Australian Med. Journ. July 1872
,,	M. 61	Fine trocar .	—	,,	,,	,,
,,	M. 49	Tapped three times		,,	,,	,,
Dr. Johnson .	M. 32	Multiple cyst	11	Suppuration; free opening	Cure, eight months	Quoted in paper
Dr. Duffin . .	F. 29	Small . . .	1½	,,	Cure, three months	,,

To complete these tables, the following are appended, and must be interpreted on their own merits:—

I. Dr. Page: 'St. George's Hospital Reports,' 1868.—Tumour punctured by Mr. Tatum. Five or six defunct

hydatids let out. Some six months before had been galvanised, with the result that the swelling had much diminished.

II. Dr. Fuller: 'St. George's Hospital Reports,' 1870.—Tumour twenty-five years. Belly measured 56¼ inches on admission. Distinct fluctuation of a large cyst; its connections could not be made out. Belly very tender. Urine albuminous. Tapping: 31 pints removed; glutinous membrane blocked the flow considerably. Fluid, darkish green, sp. gr. 1016, opaque, very albuminous; bile, hæmatoidin, doubtful pus. Shock, great abdominal tenderness. Cyst rapidly filled. After five days, death. Post-mortem examination: enormous tumour almost filled abdominal cavity, extending into pelvis; appeared to pass into substance of liver. Walls of tumour very thin. Liver pushed down by another independent cyst, seated between the left lobe and the diaphragm.

III. Dr. Sieveking: 'Lancet,' May 8, 1869.—Admitted with pleurisy of right side. A week later the liver was found pushed down; pleurisy did well. Liver continued to increase rapidly in size. Fluctuation 2 inches above and to the right of the umbilicus. Tapping: pus, 8 ounces; large number of collapsed cysts. Canula left in; plugged. Three days later, 10 ounces of fœtid pus; many cysts. Two days later 50 ounces of pus. Death fourteen days from first tapping—exhaustion. Post-mortem examination: enormous cyst, still containing some pints of pus and hydatids.

VIII.—*A Case in which Trismus, with Facial Neuralgia and Palsy, and a recurrence of Epilepsy, were excited by a foreign body in a wound on the Cheek.* By George Johnson, M.D. *Read November* 8, 1872.

HENRY M., æt. 44, married, a wheelwright, living at Wimbledon, was admitted under my care on July 17, 1872. On July 4 he was cut on the left cheek by a blow from a metal axle, which fell against his face. The wound bled freely; he washed it, and then went to a chemist and had it strapped up. The wound soon healed, but the scar remained painful. On July 11 the pain was very severe, and on the 12th 'ten times more so.' On the evening of the

12th he had an epileptic fit. Here it may be mentioned that, from the age of eight or nine, he was for several years subject to epileptic fits. The first fit he believes to have been excited by drinking too much beer in a hayfield on a hot day. The fits recurred upon an average about once in eighteen months, but, until the occasion just now mentioned, he had been free from the fits for twelve years. On the morning after the fit (the 13th) he had some difficulty in opening his mouth and in closing the left eye. This difficulty continued, and increased until the time of his admission on July 17.

He had then the healthy look of a man of temperate habits, which he declared himself to be. There was palsy of the facial muscles on the left side; the features were drawn to the right, especially under the influence of emotion. If he attempted to close the left eye alone, it remained wide open, and when he attempted to close both eyes, the left eye-ball remained partially uncovered. He could not separate the incisor teeth more than $\frac{1}{8}$ inch. The left masseter muscle felt hard and rigid, its hardness being but little increased by a voluntary effort to close the jaws; there was a scar about $\frac{3}{4}$ inch long, an inch below the left eye; the scar was hard, tender, and very painful when touched; there was a feeling of numbness over the skin on the left side of the face; the urine was normal. When I saw him the day after his admission, the symptoms remained the same. I asked if he thought it probable that dirt had got into the wound; he said he thought it very likely, for the metal which wounded him was covered with dirty grease. I now requested Mr. Birch, the House Physician, to cut through the cicatrix, and this being done, a sharply angular piece of flint, nearly as large as a grain of wheat, was discovered and removed from the wound; its weight was half a grain. Water dressing was applied to the wound, and no medicine was given. During the next two days the symptoms remained the same, there was considerable pain in the side of the face, and he slept badly; the temperature was normal; twenty grains of chloral hydrate were ordered to be taken night and morning. The symptoms gradually passed away. On July 23 he could separate the incisors to the extent of $\frac{1}{3}$ inch; on the 26th, to that of $\frac{1}{2}$ inch; on the 29th, when he left the hospital to look after his business, the mouth opened to the extent of $\frac{5}{8}$ inch, the facial palsy had diminished, but he was still unable to close the left eye completely. On

August 2, when he came to show himself, he could close the eye; on the 9th, he could open the mouth to the extent of 1⅛ inch, and he considered himself quite well, but there was still a slight trace of facial palsy. From that date he was not seen until September 26, when he came and reported that for some weeks he had been perfectly well, and no appearance of palsy or spasm remained. In this case it appears that the presence of a bit of flint beneath the cicatrix excited pain and numbness on that side of the face, palsy of the muscles supplied by the portio dura, spasm of those supplied by the inferior maxillary division of the fifth nerve, and a recurrence of epilepsy after an interval of twelve years.

This case is in some respects similar to one which I have published elsewhere ('Proceedings of the Royal Medico-Chirurgical Society,' 1870–71). A boy, 13 years of age, was admitted under my care in June 1870, with trismus and general tetanic rigidity of the trunk and extremities. The symptoms, which had existed rather more than a week, had commenced about ten days after the infliction of a wound in the upper part of the left thigh by a sharp piece of wood. The wound had healed, but I found that the cicatrix was remarkably hard and tender when pressed. While examining the patient, I remembered two fatal cases of traumatic tetanus referred to by Dr. Taylor in his book on Poisons (2nd edition, p. 143). In both cases the wound had healed; but in one there was found after death, beneath the cicatrix, a piece of iron, and in the other a splinter of wood. Thinking it not unlikely that some foreign body might be present in my case, I gave the boy chloroform, and requested the House Surgeon—Mr. Whitmore—to cut through the cicatrix. In doing so he picked out a piece of woollen stuff about the size of a small pea. The stick which wounded the boy's thigh had pierced his cloth trousers, and carrying with it a piece of wool, had left it in the wound. The tetanic symptoms gradually subsided. Repeated 15 grain doses of chloral had a good effect in procuring sleep and allaying spasm. He took 24 doses of the chloral between June 26 and July 9. He was discharged well on July 27. The chief interest of these two cases consists in the fact that formidable nervous symptoms were apparently excited by the presence of a foreign body of small size beneath the cicatrix of a recently healed wound.

IX.—*On the Therapeutical Use of the Stomach-pump in Chronic Diseases of the Stomach.* By P. SCHLIEP, M.D. *Communicated by* DR. HERMANN WEBER. *Read November* 22, 1872.

IN one of the best known works on the diseases of the stomach I find the following remarks :—*

We may suppose, that *if* we 'can completely empty a dilated stomach, and can prevent it from becoming again distended, the secretion of mucus and the vegetable fungi will disappear.'

This idea has been practically carried out by Professor Kussmaul of Freiburg, who used the old instrument of Weiss in London, formerly known for the treatment of pleuritic effusion and for artificially feeding a patient. His most important paper of the year 1868 † caused a great many German physicians to experimentalise on this subject, and consequently this treatment of dilatation of stomach became more generally known in Germany.

From the clinic of Prof. von Niemeyer of Tübingen,‡ Prof. Iürgensen of Kiel,§ Dr. Rosenthal of Berlin,‖ Prof. Mosler of Greifswald,¶ Prof. von Ziemssen of Erlangen ** and others, there soon appeared communications on the practical importance of this new method, with suggestions on the simplification of the proceeding.

The therapeutical success was, according to their statements, very good, sometimes even brilliant; and not only in cases of dilatation, but also in other diseases of the stomach. The difficulties opposed were easily surmounted.

Since then, the number of German practitioners who have treated their patients by that method has in all probability

* Dr. Fenwick, 'The Morbid States of Stomach and Duodenum,' p. 255.

† 'Deutsches Archiv f. Klin. Med.' Bd. vi. p. 455.

‡ Dr. Wiesner, 'Ueber die Behandlung der Ectasie des Magens mittelst der Magenpumpe.' 'Berl. Klin. Wochenschr.' 1870, No. i.

§ Iürgensen, 'Zur Localtherapie der Magenkrankheiten.' 'Archiv f. Kl.' Med. vii. p. 239.

‖ Dr. L. Rosenthal, 'Ein Heberapparat zur Entleerung des Mageninhalts.' 'Berl. Kl. W.,' 1870, p. 24.

¶ Prof. Mosler, 'Mittheilung auf der Versammlung pommerscher Aerzte in Stettin.' 1870.

** Prof. v. Ziemssen, 'Zur Technik der Localbehandlung des Magens.' 'Archiv f. Kl. Med.' x. p. 65.

largely increased, so that in Germany it may be called a rather popular proceeding. In England, as far as my experience goes, although the stomach-pump is a generally known instrument, the use of the same appears to be confined to cases of poisoning or similar emergencies.

At the suggestion of my colleague, Dr. Hermann Weber, I beg to address a few words to you regarding the application of the stomach-pump in cases of chronic diseases of the stomach, mentioning, among the great number of cases which have recently come under my observation, only two instances—I have brought with me a patient of the German Hospital, on whom I could show you the mode of operating if you care to see this.

Case I.

Summary.—Great dilatation of the stomach after ulceration three years previously. Much emaciation and debility. Speedy improvement and recovery of weight under the repeated use of the stomach-pump.

F. D., æt. 49, a baker, was admitted to the German Hospital on July 9, under the care of Dr. H. Weber. Three years ago the patient said he had suffered from hæmatemesis and other grave symptoms of the stomach, especially vomiting and pain. Latterly the pain had returned with increased violence, principally after meals. He had no appetite at all, vomited every day fluid with much viscid mucus, was troubled with obstinate constipation, and in consequence was very weak and unable to follow his employment.

When received at the hospital, he presented the appearance of a tall and strong-boned, but very emaciated man, and was incapable of ascending the staircase to the ward, but had to be conveyed thither by the lift. The stomach was easily discovered to be like a half-filled bag, hanging down below the umbilicus, and a splashing sound was produced by palpation. No tumour to be discovered. Temperature and pulse normal.

Treatment.—Stomach-pump to be applied once every day.

Diet.—Fluid nourishment.

At first the liquids drawn from the stomach were very thick and ropy, generally neutral, sometimes clear, at others intermixed with particles of undigested food. No vomiting occurred since the commencement of the treatment; the pain abated and disappeared entirely after four applications; appetite returned after about two more. Bowels opened

twice by enema, three times by colocynth pills; after that the motions became regular. The weight in German pounds was as follows:—

July	10	123
„	18	127
„	25	127½
Aug.	1	131½
„	8	132
„	15	133
„	22	135
„	29	136
Sept.	7	137

On his discharge at the end of September it was 137 pounds.

As the above figures show, the improvement proceeded steadily, and in accordance with it the patient's general health improved, and though at the commencement he was melancholy and low-spirited, he by degrees got to be cheerful and able to resume his usual employment.

Meanwhile, he is now again under treatment for a surgical complaint, and thus he enables us to observe that the condition of his stomach is quite satisfactory, his weight having further increased to 138 pounds.

Case II.

Summary.—Dilatation and catarrh of stomach after ulceration. Anæmia; amenorrhœa; great debility. Rapid improvement under the use of the stomach-pump.

F. R., æt. 25, a general servant, native of England, came as out-patient of the German Hospital under my care on July 12, 1872.

Patient stated to have been ill, and to have vomited blood six months previously. She was then suffering from violent pain in the stomach, which, after solid food, became almost unendurable. Her appetite became worse and worse, she complained of much sickness, and sometimes vomited.

Bowels very irregular; much constipation. Her menses had latterly entirely ceased.

Patient is very anæmic and much emaciated. During a fortnight I tried to remove the symptoms by internal treatment with alkalies and morphia, but the pain still remained. Motion of the bowels was only produced by strong doses of aloes.

On July 27 the stomach-pump was applied for the first time, and a thick and ropy fluid, intermixed with undigested

food, was removed, this fluid appeared to be in fermentation, and possessed an acid reaction. On July 30, and August 1, 3, 5, 8, and 12, the pump was again applied—altogether seven times.

Vomiting ceased immediately; appetite began to return after a few days. Pain disappeared after three applications. Bowels regular, without any medicine. She soon became stronger, and could perform her duties. In the beginning of September she became again regular. Unfortunately her weight has not been taken, but would, as I suppose, have shown very satisfactory results, as her general appearance had improved both as regards colour as well as general nutrition.

In these, as in many similar cases, I found that the results of the application of the stomach-pump in chronic diseases of the stomach are eminently satisfactory, and appear in the following order:

The first result is the cessation of vomiting. In most cases this effect was immediate, and in all after several applications. And this is quite natural, as what nature had hitherto endeavoured to do is now done by the pump; that is, the stomach is emptied, which, as we know, may also be accomplished by an emetic. But spontaneous vomiting causes too much pain by muscular over-exertion; and it would be impossible to administer an emetic regularly every day; therefore we may say that the stomach-pump combines the advantages of both without their disadvantages. The throat and œsophagus are soon accustomed to the introduction of the tube, and allow this to be introduced without any disagreeable effect after the first few applications. In this manner it is possible to empty the stomach thoroughly, whilst after vomiting a considerable quantity of the stomach contents are retained. If we imagine, then, how through excessive overloading of the stomach it may be dilated, and by dilation and drawing down may be entirely closed at the pylorus, it is almost clear, that, only by thorough evacuation we can reduce the stomach to its normal size, and understand by what means it becomes possible to withdraw the patient from that 'circulus vitiosus' in which the stomach disease causes debility, and debility increases the disease of the stomach.

The cessation of vomiting will be followed immediately by decrease of the pains. I never found it necessary to apply morphia to patients treated by the pump. It appears, therefore, that the pain is principally caused by strong reflex con-

tractions caused in the stomach by the slimy and fermenting contents.

We may suppose that there is also some amount of inflammatory irritation of the mucous membrane, which is soon reduced, sometimes sooner sometimes later, by removing the irritating liquid.

Increase of appetite is likewise an invariable and early effect of the stomach-pump. I ordered solid food to be avoided; otherwise I consulted the wishes of the patient, and found that usually some stimulating food agreed better than the rather uniform soup-diet, which, on the other hand, was better digested than pure milk, from which lumps of caseine are formed in the stomach. Small quantities of beer or wine sometimes are of good use.

The improvement of the general condition of the patient was testified not only by increasing strength, and his greater cheerfulness, but also by augmentation of weight. Although there may not have been in all cases an immediate great improvement in that respect, it was sure to appear soon, and in a good many followed immediately.

Another remarkable and satisfactory proof of the good result of pumping is the spontaneous motion of the bowels, even in such cases where constipation had been most obstinate, and could only be relieved by strong doses of aloes or colocynth. Very often the bowels will be opened after the first application of the pump, more frequently after the sixth. I cannot quite account for this remarkable fact; but we must remember how little nourishment a patient has taken during the existence of the disease; how little of it could pass through the pylorus, half closed by the position of the stomach, into the intestines; how weak and nearly paralysed the muscles then were, not only of the voluntary muscles but also those of the digestive canal—how all these important functions are assisted by the treatment—and we can have a better idea of the improved action of the bowels.

In some cases it may be desirable to wash out the stomach by solutions of various medicines. I tried magnesia, carbonate of soda, creosote, boric acid, and permanganate of potash, and found them very useful in those cases where much acidity and fermentation were present. But in most cases I have found the simple use of warm water quite sufficient.

Thus are roughly sketched the therapeutical effects of our method.

Allow me to mention a few scruples, which perhaps may

have arisen in your minds. You think, possibly, that many patients would not bear the introduction of the pipe into the stomach; and it is not to be denied that this proceeding is accompanied by very unpleasant sensations, particularly in delicate and nervous women, which sensations are increased if regular respiration be discontinued. But, generally speaking, patients are so submissive by the sufferings they have endured, that you need not hesitate to inform them that the first application will be very disagreeable; only they require the assurance that they will be benefited by the treatment, which you can do conscientiously. They then, as I always found, willingly submit, and promise, under all circumstances, to allow the introduction of the tube at least three or four times. After this you are almost sure that the patients will return. Their œsophagus no longer rebels against the tube, they breathe quietly, even if the epiglottis is a little inconvenienced; and they have already then experienced so much benefit from the method that they willingly return, in order to obtain one or several days' relief, even at the expense of a short, if most disagreeable sensation. In time the unpleasantness entirely disappears, and I have had many patients who introduced the tube themselves and made jocular remarks during the operation.

Another cause of apprehension is the possibility of sucking some mucous membrane into the opening of the tube, thus causing hæmorrhage and ulceration. I have seen sometimes a slight admixture of blood with the contents, which I suppose was produced by the contraction of the stomach, thus causing friction with the tube. Once in about 600 times I found a small piece of mucous membrane in the mouth of the tube, when the patient himself pulled this out somewhat suddenly after the finishing of the operation, but no bad symptoms followed. The same occurrence has been seen by Professor von Ziemssen of Erlangen, without any serious consequences following. In order to avoid such an accident, I always insert between the pipe and the pump a small india-rubber tube, which will close as soon as any impediment opposes the flow of liquid to the pipe; so it must be called an act of carelessness to tear off and bring up a piece of the mucous membrane.

These two are—generally speaking, the most common—objections against the method. But considering, on the other hand, the advantages of it in the treatment of chronic complaints of the stomach, and remembering how many

diseases are complicated by complaints of the stomach—as diseases of the heart, the lungs, the liver, the kidneys, and others; and remembering, further, how much these complaints may be relieved by improvement of the digestive powers—then, gentlemen, you will agree with me if I say that the application of the stomach-pump is of no small importance, not only to the specialist in stomach diseases, but also to the medical profession in general.

X.—*Two Cases of Cancer of the Left Breast. The first case of eight years, the second of less than twelve months' duration.* By T. W. NUNN. *Read Nov.* 22, 1872.

CASE I.—Ann F., spinster, æt. circa 41. First came under my notice July 1868, at the Middlesex Hospital Cancer Out-patient Department. There was on her left pectoral region a scar resulting from an operation for the removal of a tumour from the breast, two or three years previously, by Mr. Henry Smith, at King's College Hospital. The scar ran obliquely upwards and outwards. The patient stated that a part only of the breast had been removed with the tumour. There was induration of some of the axillary glands and of the contiguous tissues, the mobility of the arm being thus impaired. Along the margins of the scar, which was superficially ulcerated, were some yellow-red tubers about the size of hazel-nuts, rather dry and rough than shining and vein-marked. The patient had discovered the original tumour two years before Mr. Smith's operation, therefore the disease, at the date of her application at the Middlesex Hospital, already had existed at least four years. The recurrence of the cancer took place, I believe, about twelve months after the operation—on this point I cannot, however, speak with complete confidence. The patient continued as out-patient during two years, the tubers at the upper margin very gradually increasing and merging into an oblong protuberance overhanging the scar. The noticeable facts in her history during this period were—a fall in October 1869, which shook her a good deal, and appeared to aggravate her ordinary discomfort: the healing of the ulcerated surface of the scar in January 1870; and an increased painfulness of the affected

parts in March, which continued, and determined her admission as in-patient in June following. Her condition at that date is thus noted in the Cancer Register (Vol. X., Case No. 8) :—

'In the cicatrix running from the seat of the breast backwards and upwards to the anterior fold of the axilla are several roundish, hard, granulating nodules; the tissues are puckered, and in the surrounding skin are some small, hard, red, marble-sized nodules, some of these quite low down on the left side; some smaller pea-sized swellings in front, and one as low down as the end of the second piece of the sternum. There is tenderness over the liver, but no nodules or enlargement could be detected.'

We have now reached the sixth year of the duration of the disease.* I found, further, on the patient's admission, an undue dulness of the lower part of the thorax on the right side. About the middle of July there was so much pain in the back that the patient could neither raise herself nor turn in bed. By the middle of August the mass at the upper border of the cicatrix had inflamed and become gangrenous; it sloughed cleanly out, and the sore gradually healed, and remained sound for the rest of the patient's life.

In October there was numbness and motor paralysis of both legs. In November the tongue became 'beefy' and the paralysis continued. In February 1871 my colleague, Dr. Henry Thompson, diagnosed 'extensive pleuro-pneumonia of the left lung, occupying nearly the whole of it.' But by July 18 the patient had so far recovered health and strength as to be able to walk across the ward. In October the left side of the thorax was found to be dull. In November she suffered much dyspnœa and cough. In January 1872 she complained of great pain in the right shoulder, and in April of pleuritic pain in the *right* side. In July diarrhœa threatened to be troublesome, but was checked by sulphate of copper and opium. On August 13 the abdomen was tympanitic and tender, the tongue coated in the centre, the breathing somewhat laborious. P. 104, R. 34, T. 97°. There was evidence of fluid in the peritoneal cavity and of enlargement of the liver, over which organ a friction or crepitation could be felt; and there could be also felt a nodulated condition of its surface; the urine, tested with nitric acid, gave the bile

* I may mention that the registrar noted that the first observation of a tumour by the patient herself was eight years before her admission into the hospital.

tinge. The temperature up to the date of the patient's death on August 27 was observed daily, but it never exceeded 98·1°. The above are the salient epochs in the patient's history. From time to time there were developed in the skin around and about the cicatrix small shining tubercles, but, what was remarkable, individual tubercles wasted away and almost disappeared. Mr. De Morgan was so good as to look at the case occasionally, and especially noticed this fact.

The post-mortem examination was made by Mr. Morris, and the following is an abstract from No. 66, vol. ii., P. M. Register, 1871–72: 'The left arm was tightened to the side of the trunk by a mass or group of nodules of deposit; the deposits were found, for the most part, to extend no deeper than the cutis; in one or two spots only was the fascia covering the intercostal spaces involved. There were nodules of cancer on the inner aspect of the fourth and fifth ribs and on the *outer* aspect of the eighth rib of the right side; this last-named deposit involved the proper structure of the rib itself; the upper part of the manubrium sterni was also the seat of deposit. There were no deposits of cancer in the lungs. The left lung was small, splenified, and inelastic, and firmly adherent to the chest-walls; this lung weighed 11½ ounces, the right lung weighing 17 ounces. The liver weighed 7½ pounds, and was studded with innumerable cancer deposits; around the circumference of each was a bright yellow border of liver tissue, and in the centre of some, on section, were seen the open mouths of an hepatic vein. The liver reached on the right side to the third, and on the left to the fifth intercostal space; downwards it extended below the umbilicus. Twenty ounces of serum were taken from the peritoneal cavity. The spleen was normal; its weight 9½ ounces; the kidneys also normal. The uterus contained fibroids, one of which was calcified.'

Case II., for which I am indebted to the kindness of Dr. Saunders, of South Molton Street, is that of Mrs. R., æt. 27, living in London, the mother of five children. I saw Mrs. R. first on the 23rd of April of this year (1872), only two months after her confinement with her fifth child. There was a tumour in the axillary lobes of the left breast, not well defined, and about the size of half an orange. This tumour she discovered in the November preceding—that is, at the seventh month of her pregnancy. After the birth of her third child she had suffered from inflammation of

the affected breast, terminating by resolution, and she went through the next lying-in, in February 1870, without trouble, and nursed her infant until it was 9 months old.

At the date of her visit to me the nipple was somewhat retracted, but taking into account her recent confinement and the obscure limits of the tumour, I was led to hope that it might be a simple inflammatory swelling of the axillary lobes of the gland. The patient was pale and weak. I consequently ordered her steel and cod-liver oil, and suggested that she should go into the country. I saw her again on June 19; she had then ptosis of the left eyelid, and the tumour had put on a definite aspect of being cancerous; it had become stony, and the skin over it was puckered, and it was more painful than formerly. I proposed that, if the painfulness became excessive, or even increased, the tumour should be removed, although I considered the case one in which a very temporary relief only could be expected from operation. The patient, however, declined to have anything done. She died in October; and Dr. Saunders has given me the following further particulars. He writes:—'After you last saw Mrs. R. she continued to take the cod-liver oil and tinctura ferri, and in a fortnight's time, or thereabouts, became so oppressed with fat that I was obliged to discontinue the oil; the fat lay in rolls over the abdomen and also over the ribs, and her breathing became oppressed, as if the heart was loaded with fat. The patient lost the use of her lower limbs about two months before her death, and she was confined to bed. She had very little pain in the breast, which became hard, rather larger, and fixed; there was no ulceration, but the nipple was very slightly excoriated. She had frequently pain down the left side of the neck, extending over the scapula. This pain was some times intense, and required for its alleviation the injection of morphia. The ptosis became complete and the left eye everted. The thirst was unquenchable; the temperature in the axilla towards the latter part of her illness reached 104°. The patient gradually sank.' No post-mortem was made.

These two cases presenting such unusual features, and standing in such contrast to each other, I thought might possibly be of interest to this Society.

Thus Case I. extended over at least eight years, whilst Case II. had a duration of not more than twelve months. In the first case the cancer deposits were for a long time

apparently circumscribed and local, and even evinced a tendency to spontaneous cure; whilst in the second the general economy would seem to have undergone some morbid change, the nervous system, at one or more points, becoming probably the seat of cancerous deposit. In Case I., at the date of the patient's coming under my notice in 1868, no surgeon, I think, would have proposed to meddle, either by the knife or by caustics; yet the largest cancerous mass spontaneously sloughed, and the resulting sore healed and remained healed. In Case II. the probability of the tumour, under the circumstances of the patient's youth and recent *accouchement*, being simply an inflammatory swelling, an operation without delay for its removal would not be warranted. In Case I. the cancer occurred in an unmarried woman entering on her fifth decennium; in Case II. the disease commenced during the patient's fifth pregnancy, in her 27th year—i.e. whilst in full reproductive activity. The variety of aspects in which cancer presents itself is perhaps in some measure due to the modification of the *disease* by the peculiarity of the structure in which it is found, and by the situation and surroundings of the selected structure; one need but refer to cancer of the liver, of the peritoneum, or of the pleura, in contrast to cancer of the breast, to illustrate this. Assuming cancer to be a local disease at its very commencement, can we point to the causes that render the cancer germs stationary, living their life and undergoing retrograde changes without travelling to distant parts of the system and there proliferating? What constitutes the difference between cancer-cells or germs content with a local career, and those of a propagandist order?—what conditions provide each of these opposite degrees of activity? Is non-contamination due to resistance of the parts or tissues exposed to contamination, or to some local change in the cancer destroying the power of contaminating? Finally, what share has inflammatory action, by softening the tissues and stimulating proliferation, in promoting diffusion?

Here, then, are pathological questions, placed in a practical point of view. But it may be asked, if cancer is a blood disease, how can one justify removal of a cancerous tumour? It is, I think, easy to reply to this question. A cancerous tumour having formed—either a shrinking of all the parts involved occurs, or an increase of vascularity is established, and the part enlarges. But the cancer-element itself has a very low and limited vitality, and it appears to interfere with

the normal growth of the part in which it forms, causing its atrophy, or exciting it to a headlong out-growth. Inevitably it induces destruction—in some very rare instances so complete a destruction that the affected part drops out—is spontaneously enucleated, as in the first case detailed; but, under ordinary circumstances, the knife or the caustic much more effectually and neatly removes the diseased part, and in no way, as far as I have ever seen, accelerates general diffusion of the disease. Had operation been resorted to in the second case, inevitably the operation would have been blamed for the rapidly fatal issue.

XI.—*A Case of Œsophagismus (Spasmodic Stricture of the Œsophagus) in a young Boy.* By J. W. Hulke. *Read November* 22, 1872.

A PALE, very emaciated boy, æt. 10, was placed under my care in the Middlesex Hospital, on October 17, by Mr. Cooper Rose, who told me that during four months he had vomited food and drink immediately after swallowing them; the ejecta were so unaltered that Mr. Rose thought they could not have passed into the stomach. Milk was brought up uncurdled. A probang seemed to meet with an obstruction at a short distance from the stomach. The parents had informed Mr. Rose that before this illness he was healthy and stout, and that he was not known to have swallowed anything that could have damaged the gullet.

A mug of milk being given him before the class, he resolutely swallowed three or four mouthfuls, then suddenly his face flushed, he heaved, and the milk came up unchanged. He said that he felt it go down to about the middle of his breastbone (pointing to this spot); here it stopped; he felt choking, and it made him sick. Some sopped toast was thrown up in the same manner.

His age (10 years), the negation of his having swallowed anything corrosive (confirmed by the absence of any traces of injury in the fauces or pharynx), or any hard substance which might have wounded the gullet, his previous healthiness, and the absence of pain, all rendered very improbable the existence of organic stricture, of a limited patch of inflammation, and

of ulcer—three lesions attended with vomiting of this sort. Further, the non-existence of physical signs of a mediastinal tumour, which might compress the œsophagus, was confirmed by my colleagues, Dr. Greenhow and Dr. Liveing.

The presumption was so strong against the existence of any gross organic disease, either in the œsophagus or in the parts in direct relation with it, that I did not immediately examine it with a bougie, but placed the boy in a ward with other children, and had him closely watched by an intelligent sister. It then soon appeared that he was not *always immediately* sick. Next morning some milk was not vomited till at least half an hour after drinking it. The nurse was directed in his hearing to give him small quantities of milk, and of any simple solid food he liked, finely minced, from time to time; and I told him very impressively that he must be careful to take them slowly, and added that I thought he would soon be better. This succeeded so well as to confirm the opinion that he had not any organic disease, and that his symptoms were referable to a spasmodic stricture near the lower end of the œsophagus.

He now became very troublesome; he would neither play with the other children or go into the garden, because this was so dull. He wanted to run away home; and he often burst into uncontrollable sobbings so long and loud as to disturb the whole ward and oblige me to place him in a room apart. On the fourth day he told me that he could not get well, because I had not given him any medicine to cure him. To meet this difficulty I gravely dictated a prescription consisting of Spt. lavand. co. ʒii. Aq. ℥vi., of which he was to take two teaspoonfuls twice a day, told him that at my next visit I hoped to find that he had not been sick, and added that the sooner he got well the sooner I should be able to let him go home.

These measures were quite successful; he soon asked for the ordinary meat diet, retained it, and throve upon it.

November 7.—He went home, having vomited once only during the preceding fortnight, and that while in a violent passion just after a meal. He was already stouter and stronger than when he came in on the 17th ultimo. His mother, who fetched him, said that he was always a very excitable child, and she told me that she herself was very hysterical.

This rapid recovery, and the nature of the treatment, make it, I think, quite certain that the affection was a

simple spasmodic stricture, not symptomatic of any gross organic change in the part or in any other organ.

No other similar case at so early an age has come under my notice. The rarity of this neurosis in childhood is my apology for bringing it before the Society.

XII.—*Three Cases of Pyrexia in Phthisis treated by Cool Baths.* By Dr. C. Theodore Williams. *Read December* 13, 1872.

THE pyrexia of phthisis presents difficulties of study, on account of its great variation; and in order to arrive at conclusions as to its true course in any particular instance, it is necessary to carry out thermometrical observations for a considerable period.

It has been my custom for the last year and a half to have the temperature of a certain number of hospital cases of phthisis taken twice or three* times a day, for at least a week, and often for a fortnight, before any decided treatment is attempted.

In many instances the pyrexia has subsided under the influence of rest, abundant food, and the equable atmosphere of the hospital; in others it has persisted and assumed a type sufficiently well marked to afford a characteristic tracing; in a third class the pyrexia seemed to follow an extremely irregular course, and to be governed by no fixed laws. Of the above classes, patients of the second were selected for experimental treatment, on account of our being to some degree acquainted with the natural course of their feverishness; but it is not my purpose this evening to trace out the different types, nor to state the effect which the various drugs used had on them, but to give a brief account of three of these cases which were submitted to the action of cool baths, and to make a few remarks on their effects.

It occurred to me that, though the cool bath had been principally used to reduce the very high temperatures occurring in rheumatic fever and in continued fevers, it might, if used to a minor extent, exercise some influence over the lower,

* At the meeting at which this paper was read, I exhibited a number of charts of cases in which the temperature was taken five times a day; and since then, in order to determine the natural temperature course of phthisis, I have had an *hourly* record of the temperature made in a few cases, the results of which will be shortly published.

but still abnormally high, temperatures which often occur in consumptive patients; this symptom, though not of such vital importance as Niemeyer* would have us believe, being one which it is highly desirable to reduce.

Brehmer† states that he has for many years been in the habit of reducing the hectic of phthisis by cold shower-baths, and this practice is carried on by himself at Gödbersdorf, and at Davos, in the Grisons, under Drs. Spengler and Unger. These physicians do not trust to attendants, but administer the baths themselves, and with no unsparing hand.

With the exception of Dr. Hermann Weber, who tells me that he has tried cool baths in pyrexial phthisis, I have not heard of any physicians using cool immersion in such cases in this country. I therefore offer these cases, not as complete clinical records, which they do not profess to be, but simply as experiments of the effects of cool immersions on the pyrexia of phthisis.

Case I.

B. B., æt. 27, a labourer, was admitted into the Brompton Hospital under my care on May 7, 1872. He stated that at the age of 18 he brought up ʒi. of blood, and continued to have hæmoptysis to a less extent for three weeks, the expectoration being occasionally streaked since that time. Cough and loss of flesh commenced two years ago, and have continued since, increasing during the last two months. He has had night-sweats on and off for six months. Cough constant, expectoration muco-purulent; appetite moderate, bowels regular, tongue clean. P. 112, T. 101° F., R. 30. Dulness and very coarse crepitation were detected in the upper half of the left lung, with cracked-pot sound in the first interspace, some dulness and crepitation above the scapula; fine crepitation was audible in the upper part of the right lung.

Was kept in bed, and ordered mistura quinæ twice a day, with a dessert-spoonful of cod-liver oil, and counter-irritation, with a strong solution of iodine, to the left upper chest.

His weight, May 9, was 7 stone 13 pounds.

May 11.—Has had some diarrhœa. Cough much relieved by the iodine paint. Ordered a mixture of gentian and bismuth, with five minims of Liquor opii sedativus.

* 'Text-book of Practical Medicine,' vol. i. p. 244.

† 'Die chronische Lungenschwindsucht und Tuberculose der Lunge,' 2nd edition, 1869.

May 13.—The diarrhœa has ceased, and the patient is ordered to omit all other medicine, and to take ℥i. of peppermint-water three times a day.

He remained on this treatment for three weeks, and the temperature was taken twice daily, at 10 A.M. and at 10 P.M., by Mr. Bartlett, the assistant resident medical officer.

In the first week the temperature varied between 100·1° F. and 102·1° F., the evening record being generally about 102° F. The pulse was from 100 to 120, and the respirations about 28. In the second week it was much more irregular in its rises and falls; towards the end it became more persistently high, and from the 21st to the 23rd remained between 101·2° F. and 102·6° F., the pulse having fallen to 96, and the respirations being 24. On the 24th, Dr. Tatham and I found the physical signs to be—on the right side, fine crepitation to the third rib; on the left side, coarse crepitation to the base anteriorly, and over the upper third posteriorly. The axilla temperature was 101·1° F.

As the temperature remained continuously high, and the patient showed no signs of weakness, I determined to cautiously try a cold bath, and at 4.24 P.M. on June 4 he was lifted into water of 92° F. by Mr. Bartlett, the temperature of the room being 65° F. At 4.33 P.M. the rectum temperature was 102·1° F., respirations 36, pulse perceptible but weak. Patient began to shiver. The bath was lowered to 80° F., and at 4.40 P.M. the temperature was 100·8° F., the pulse still perceptible. The water was then lowered to 70° F., and at 5.11 P.M. the rectum temperature was 97·6° F., the respirations 28, and the pulse 80 and stronger. He was immediately taken out (having been in the bath forty-two minutes), wrapped in warm blankets, put to bed and given an ounce of brandy.

At 5.15 P.M. the temperature was 98·2° F., but at 5.36 P.M. it fell to 96·1° F., the respirations increasing to 40 and the pulse to 120. He still continued to shiver, and a hot bottle was put to his feet and more brandy given. At 5.53 P.M. the temperature was 97° F. At 6.5 P.M. half an ounce more brandy was given; he ceased to shiver, and described himself as pretty warm and comfortable, and inclined to sleep. Respirations 30, pulse 92.

At 6.30 P.M. passed a great deal of water; an hour later the temperature rose to 100° F., but fell at 10 P.M. to 99·8° F.

The following table gives the particulars of the bath:—

TABLE I. (*B.*)

Time	Temperature	Where taken	Resp.	Pulse	Bath temp.	Remarks
May 24 . . .	—	—	—	—	—	Patient placed in bath of 92° F. at 4.24 P.M. Temperature of room, 65° F.
„ 4.33 P.M.	102·1°F.	Rectum	36	Perceptible	90°F.	Patient shivers slightly.
„ 4.40 P.M.	103·8°F.	„	36	„	80°F.	Shivers so much that the pulse can with difficulty be felt.
„ 5.11 P.M.	97·6°F.	„	28	„	70°F.	
„ 5.15 P.M.	98·2°F.	„	24	80, stronger		At 5.15 P.M. was taken out of bath after forty-two minutes' immersion; dried rapidly; wrapped in warm blankets, and given one ounce of brandy with hot water.
„ 5.35 P.M.	96·1°F.	„	48	120	—	Patient still shivering; respirations hurried. Temperature has fallen 2° F. since leaving bath. Hot bottle to feet, and one ounce more brandy given.
„ 5.53 P.M.	97·1°F.	„	44	92	—	Half an ounce more brandy. 6.5 P.M.—Has quite ceased shivering, and says he feels pretty warm and comfortable, and inclined to sleep. Total brandy given, two and a half ounces.
„ 6.30 P.M.	99·8°F.	„	36	96	—	Passed water.

May 25.—Slept well, sweated a great deal, and passed a large quantity of pale urine, but now feels comfortable. Cough about the same.

In addition to the above physical signs, there was slight crackle at the right base, which subsided in a few hours. The temperature, taken three times, varied between 98·8° F. and 99·6° F., respirations 26, pulse 80.

During the next three or four days it rose again, but never as high as previous to the bath, the evening record on one occasion reaching 101° F. It then gradually fell, and in the whole of the following week only twice reached 100° F. At the end of the week it ranged from 98·2° F. to 99·6° F., respirations being generally 24 and pulse 94. On June 4 the patient was found to have gained 4 pounds in the ten days which had elapsed since the bath. He had never lost weight during the pyrexia. He was ordered cod-liver oil and

mistura quinæ twice a day. The temperature record, which had been carried on for more than a month, was discontinued. He remained in the hospital till August 1, and left considerably improved in strength and flesh, with diminished cough. Some slight crepitation was still audible in the upper right front and over two-thirds of the left front, the posterior surfaces of both lungs being quite free.

In this case the reduction of temperature by the bath amounted to 6° F., and although the patient again became slightly feverish, the bath seemed the starting-point of a fall of the temperature and decided improvement, both general and local.

Case II.

E. L., æt. 25, single, a general servant, was admitted into Dr. Quain's wards on August 8, 1872. She stated that she had had a cough, and been losing flesh for eighteen months, these symptoms having become more marked during the last nine weeks. Catamenia had been absent for six months; she had suffered from feverishness, night-sweats, and shortness of breath for two months.

On admission, cough bad, with copious muco-purulent expectoration; tongue rather white; skin dry and hot; pulse 100. Dr. Quain found a gurgling cavity in the upper part of the right lung.

On August 9 the temperature was 101·4° F., and on the 13th 104° F., her weight being 6 stone 11 pounds. On August 22 the patient came under my care, in Dr. Quain's absence, and I detected cavernous sounds as low as the second rib on the right side, and tubular sounds in the upper left front. The patient was ordered to be kept in bed, and the temperature taken twice daily, at 10 A.M. and 10 P.M., by Mr. Lindsay, the clinical assistant.

The temperature during the first week was somewhat irregular, the morning observations giving an average of 101·2° F. and the evening 101·8° F., the highest being 102·8° F., the lowest 99·6° F., the only time that it fell below 100° in three weeks, as will be seen hereafter. In the second week it was more irregular, varying between 100·2° F. and 103·4° F., the morning average being 102·1° F. and the evening 101·6° F.

On September 5 she was ordered five minims of Liquor arsenicalis, three times a day, in an ounce of water. She

took this for four days without any effect on the temperature, which varied between 101·4° F. and 102·8° F.

On September 11, carefully examining the chest, I found dry cavernous sounds as low as the third rib in the right front, and to a less extent behind. On the left side, crepitation as low as the fourth rib in front, and to a similar extent behind. At 4.30 P.M. the temperature in the mouth was 103·1° F., R. 32, and P. 136 (quickened probably by the prospect of the bath, which I had prepared her for).

At 4.48 P.M. she was placed in a bath of 94° F., the temperature of the room being 71° F. She stated she felt very comfortable.

The temperature of the bath was quickly lowered to 80° F.; the patient's teeth began to chatter, and it was found impossible to take the temperature in the mouth. At 5.4 P.M. it was 104° F. in the rectum, R. 36, P. 124. The bath was then lowered to 70° F. At 5.20 P.M. the rectum temperature was 103·2° F., the pulse 120. The patient shivered greatly, and the pulse became hardly perceptible. She was at once removed from the bath, after thirty-two minutes' immersion, wrapped in warm blankets, given an ounce of brandy with warm water, and a hot bottle to her feet. At 5.35 P.M. the P. was 110, T. (R.) 102·6° F., R. 26. At 6 P.M., after 1½ ounce more brandy, the temperature was 102° F., pulse 108. At 7.30 P.M. she took half a pint of warm milk, and had profuse perspiration; temperature in the mouth 101·8° F. At 12.45 A.M. the perspiration ceased, and she felt comfortable. Temperature in the mouth 100·4° F., P. 108, R. 26.

For the particulars of the first bath, see p. 60.

September 12.—Says she feels more comfortable than she has done for a long time. Has not had her morning shivering fit; aspect cheerful; skin slightly perspiring; temperature at 10.30 A.M. 100·8° F. At 4.25 P.M. it rose to 103·3° F., pulse 120.

14.—Temperature yesterday varied between 102° F. and 103° F. It fell this morning to 100·8° F. At 3 P.M. it was 103° F. in the mouth, P. 116, R. 32. The patient was given ½ ounce of brandy, and at 3.7 P.M. was placed in a bath at 90° F., the temperature of the ward being 70° F. The bath was quickly lowered, by the addition of iced water, to 72° F.; the patient began to shiver and her teeth to chatter when the bath was at 80° F., and 2½ ounces of brandy were given. At 3.35 P.M. the temperature (R.) was 101·8° F., R. 48, P. 104, good. At 3.45 P.M. she was taken out of the bath, which then stood at 73° F., after an immersion

TABLE II.

Bath I. (*L.*)

Time	Temperature	Where taken	Resp.	Pulse	Bath temp.	Remarks
Sept. 11—4.48 P.M.	—	—	—	—	92°F.	Patient placed in bath at 4.48 P.M.; says she feels comfortable; temperature of room, 71° F.
„ 4.57 P.M.	103·2°F.	Mouth	32	120	90°F.	
„ 5.4 P.M.	104°F.	Rectum	36	124	80°F.	Patient's teeth chattered so much that the observation could not be taken in the mouth.
					—	
„ 5.20 P.M.	103·2°F.	„	—	120	76°F.	After this, patient shivered greatly, and pulse became imperceptible. Was removed from bath immediately, after thirty-two minutes' immersion; wrapped in warm blankets, and given one ounce of brandy with warm water. Hot bottle to feet.
					—	
„ 5.35 P.M.	102·6°F.	„	26	110	—	At 5.45 P.M. one ounce of brandy; shivering ceased.
„ 5.55 P.M.	102·4°F.	„	20	104, weak	—	Has began to perspire.
„ 6.0 P.M.	102·0°F.	„	—	108	—	Half an ounce more brandy.
„ 7.30 P.M.	101·8°F.	Mouth	30	120	—	Has taken half a pint of warm milk. Profuse perspiration.
„ 12.45 A.M.	100·4°F.	„	26	108	—	Feels comfortable. Perspiration nearly ceased.

of thirty-eight minutes, and wrapped in warm blankets, with hot bottle to her feet. At 3.55 P.M. the rectum temperature was 101·6° F., the respirations 26. The chattering had ceased.

At 4.10 P.M., after ½ ounce more brandy, the temperature was taken in the mouth, and found to be 99·4° F. She coughed a good deal, and some wheezy sounds were audible in the interscapular regions.

At 7.30 P.M. the temperature was 101° F.; wheezing sounds had ceased.

On the 15th she seemed comfortable, having slept soundly, perspired a good deal, and she stated that her breathing was easier. Temperature during this day varied from 101·4° F. to 101·6° F. It rose on the 16th to 103·3° F., and during the next week varied between 100·2° F. and 103° F.

I subjoin the table of the second bath:—

TABLE III.

Bath II. (*L.*)

Time	Temperature	Where taken	Resp.	Pulse	Bath Temp.	Remarks
Sept. 14—3.7 P.M.	103° F.	Mouth	32	116	90°F.	Patient was given half an ounce of brandy and placed in bath. Feels very comfortable.
„ 3.15 P.M.	103·4°F.	„	32	116	90F.	Bath rapidly lowered to 72° F. by iced water. Patient's teeth began to chatter, and two and a half ounces of brandy were given in bath. Respirations more rapid.
„ 3.35 P.M.	101·8°F.	Rectum	48	104	73F.	At 3.45 P.M. taken out of bath; wrapped in hot blankets, and hot bottle to feet.
„ 3.55 P.M.	101·6°F.	„	26	96	—	At 4 P.M. was given half an ounce more brandy, and the chattering of the teeth ceased, so that the mouth temperature could be taken. Total brandy taken, three and a half ounces.
„ 4.10 P.M.	99·4°F.	Mouth	24	96	—	Coughs a great deal; wheezy sounds audible in chest.
„ 4.15 P.M.	100·7°F.	Rectum	24	96	—	
„ 5.0 P.M.	100·1°F.	Mouth	30	110	—	
„ 7.30 P.M.	101°F.	„	28	106	—	

On the 25th, as the temperature showed no marked decrease, I determined to make one more trial of the bath.

At 3.45 P.M., the temperature in the rectum being 105° F., R. 28, P. 104, she was placed in a bath of 79° F. after taking an ounce of brandy. The bath was lowered to 65° F., and at 4.15 P.M. the temperature (R.) was 104·2° F., the pulse barely perceptible. An ounce of brandy was at once given, and she was removed from the bath to bed and warmed, as on former occasions. The patient was in the bath half an hour, and complained a good deal of cold. The temperature fell to 101·4° F., and at 6 P.M. she began to perspire, and continued to do so profusely. At 10.45 P.M. it fell to 99·6° F.

Subjoined is the table of the third bath:—

TABLE IV.

Bath III. (*L.*)

Time	Temperature	Where taken	Resp.	Pulse	Bath Temp.	Remarks
Sept. 26—3.45 P.M.	105°F.	Rectum	28	104	79°F.	One ounce of brandy was given, and patient placed in bath at 3.45 P.M. At first she felt comfortable, but teeth began to chatter, and one ounce more brandy given, which stopped the chattering. Bath rapidly lowered to 65° F.
„ 4.15 P.M.	104·2°F.	„	—	Just perceptible	65°F.	Patient shivers a good deal, and complains much of the cold. Removed from bath, and given one ounce of brandy, wrapped in hot blankets, with hot bottle to feet.
„ 4.30 P.M.	103°F.	„	—	Stronger	—	
„ 4.40 P.M.	101·4°F.	„	32	118	—	Shivering nearly ceased; feels sick.
„ 6.0 P.M.	101·6°F.	Mouth	32	116	—	Has begun to perspire.
„ 10.45 P.M.	99·6°F.	„	32	108	—	Has perspired freely, and slept a little. Total brandy given, three ounces.

The following day she seemed refreshed, but complained of some pain and stiffness in the hips. There was no increase of the physical signs, and the appetite somewhat improved. The temperature did not seem to be more than temporarily affected by the bath, as it rose on the 30th to 104° F., varied between 101° F. and 103° F. for the next ten days, then shot up on October 14 to 105° F., and fell on the 15th to 98·4° F.; and a day after this, without any marked treatment, it showed a decided decrease, and ranged between 98·4° F. and 100·4° F.

October 31.—Feels much stronger; cough has decreased; appetite good. Perspires rather freely. Has taken no oil, though it has been attempted several times in various combinations—with strychnia, lemon-juice, emulsions, &c., but always failed on account of her tendency to vomit.

The physical signs are the same, except that the crepitation in the upper left chest is somewhat coarser. She

weighs 6 stone 13 pounds, having never lost weight during the whole time of her stay in the hospital; but, on the contrary, having gained 2 pounds since the last bath. The reduction of temperature in this case was 3·1° F. from the first bath, 3·6° F. from the second bath, and 5·4° F. from the third bath.*

Case III.

J. B., æt. 56, a coachman, was admitted under my care on April 2, 1872. His father died of consumption, but he has enjoyed good health till twenty months ago, when cough came on, with grey expectoration and considerable wasting, and these symptoms have continued up to the present time. He has had occasional night-sweats and some vomiting. Cough troublesome, expectoration muco-purulent, dyspnœa on exertion; appetite bad, tongue furred, bowels relaxed. P. 104, T. (evening) 102° F., R. 30. Crepitation in the first interspace and in supra-scapular and inter-scapular regions on the left side also. In last region—dulness, bronchophony, and tubular sounds. Ordered a mixture of bismuth, dilute hydrocyanic acid and gentian, and five minims of Liquor opii sed. three times a day.

On the following day, the diarrhœa and vomiting having ceased, it was changed for an effervescing potash draught three times a day.

The patient was kept in bed and the temperature taken twice daily, at 10 A.M. and 10 P.M., by Mr. Bartlett.

For the first week it varied from 100° F. to 103° F., except (a warm bath had been given) on the evening of the 7th.

On the 8th the morning temperature was 99·4° F., and the evening 99·8° F.

On the 9th it again rose to 101° F. and varied between this and 101·6° F. for the next two days.

On the 11th the potash draught was discontinued, and five minims of Tinct. aconiti ordered three times a day.

On the 18th the dose was increased to ten minims, on the 25th to fifteen, and on the 30th to twenty minims.

He took aconite altogether for more than a month.

On April 22 he complained of pain in the left side, where some dry friction sounds were detected. One-sixth of a grain

* I have to thank Mr. Mackinlay, the able clinical assistant, for drawing up a most elaborate temperature chart of this case, which was exhibited to the Society, but could not, on account of its size, be printed.

of morphia was injected hypodermically, but this failing to give relief, the liquor epispasticus was applied, which produced vesication, and the pain and friction sound disappeared.

At first the aconite seemed to have no effect on the temperature, but when twenty minims were given the temperature became somewhat lower and more irregular, sometimes rising to 101° F. and once falling to 99·8° F., the morning record being between 99° F. and 100° F., and the evening about 100° F.

On the 7th the temperature at 3.30 P.M. was 101·4° F.

As the patient seemed tolerably strong and his pulse good, and as there were no signs of fresh pulmonary congestion—a month's observation having enabled me to judge of the temperature course—I thought it would be fair to give the cool bath a cautious trial. Unfortunately, owing to some defects in our arrangements, in consequence of its being our first experiment, the temperature of the bath was higher than I intended, and the patient was immersed at 4.12 P.M. in water of 105° F. It was cooled down to 86° F., and at 4.30 P.M. the mouth temperature was 102·5° F. The patient began to shiver. The water was then reduced to 74° F., and at 4.55 P.M. the temperature was 100·4° F., the pulse 100, very weak and difficult to count, by reason of the patient's shivering so much. He was at once removed from the bath, after an immersion of forty-three minutes, wrapped in warm blankets, with hot bottle to his feet, and given brandy to the amount of three ounces in twenty-five minutes.

Half an hour later his temperature was 100° F., pulse 104, and remained the same during that evening.

May 8.—Has slept soundly, aspect brighter, cough no worse; appetite improved. Morning temperature 100·4° F., evening 101° F., R. 32, P. 88. Some crepitation audible in the right interscapular region.

9.—The crepitation disappeared; the patient was ordered a mixture of phosphoric acid and quassia.

On the 12th the temperature began to sink. Cod-liver oil was given in addition to the tonic, and on the 23rd the temperature had gradually fallen to 98° F. As it had not exceeded 99·2° F. for three days, the record was discontinued.

On June 13 he had much improved in appetite; cough slight, and only on exertion; some dulness and tubular sounds were detected on the left side, in the first interspace; tubular sounds in the left supra and interscapular regions;

no crepitation audible anywhere. He left the hospital July 1, having gained 11 pounds since his admission, 9 since his bath, and having never suffered loss of weight during his stay in the hospital.

The reduction of temperature from the bath was only 1·4° F. I think it not impossible that this was owing to the temperature of the water being so high when we immersed the patient, for his temperature rose, shortly after entering the bath, from 101·4° F. to 102·5° F., and after bath fell to 100° F.

Remarks.—From the above description it will be seen that these were cases of chronic consumption of no uncommon type, presenting the disease in an active state, and accompanied by a certain amount of pneumonic process.

In Case II. a considerable portion of both lungs was involved, and the right contained a cavity. In Case I. both lungs were attacked, but to a less extent; and in Case III. a limited portion of the left lung was attacked.

I think we may claim for the bath one advantage as a mode of treatment, on which Sir William Gull laid much stress in his opening address of 1871, viz. that it did no harm—certainly no permanent harm. The only bad effects were some slight congestion of the larger bronchial tubes, and in one instance, at the base of one lung. This was as transient as it was slight. In Case II. the patient complained of some stiffness of the limbs after the third bath, but this soon passed away.

On the other hand, a decided reduction of temperature took place in all the cases, and in all amounted to 6°. In all it rose again; but in two cases (I. and III.) the bath seemed the starting-point of improvement in strength, appetite, breathing, and physical signs. In these two cases, the temperature after the bath, though it rose again, never rose to the same elevation as it did before, and eventually gradually subsided: whether this was *post hoc* or *propter hoc*, I cannot say.

The patients seemed to suffer a good deal in the bath, and shivering and failure of the pulse came on before much reduction of the temperature had taken place, and lasted for some time after the removal of the patients to bed, in spite of the hot brandy and water. The cough was in no instance increased, and all expressed themselves refreshed by the process the next day. The skin was slightly affected in two of the patients. In Case II. rather profuse perspiration

followed the baths. Increase of appetite took place in all, and was followed by increase of weight.

I wish to draw the attention of this Society to the fact, that the continued high temperature did not cause loss of weight in these cases, as I have noticed it in many others, some of which I published lately in the 'British Medical Journal.'* Dr. Ringer† notices the same fact, but our evidence is in direct opposition to Niemeyer's,‡ who teaches that 'the decrease and increase in the weight of phthisical patients are respectively in relation to the height of the fever or its disappearance.' The diet of my patients was the ordinary but generous one of the Brompton Hospital, with a small amount of stimulants, and I think their not losing flesh is to be chiefly attributed to the excellence of their appetites.

In conclusion, I do not urge the use of the cool bath in cases of pyrexial phthisis generally, but only where limited consolidations exist, and the pyrexia cannot be reduced in other ways. Its use does not seem to be attended with much risk, except possibly in 'large cavity cases,' where there is danger of collapse, or of death by hæmorrhage from a pulmonary aneurism bursting. At the same time, it is not attended with very marked permanent benefit, the good results being for the most part temporary.

XIII.—*A new Method of intensifying Sounds produced within the Chest.* By Geo. Vivian Poore, M.D. *Read December* 13, 1872.

Dr. POORE exhibited a patient with aortic regurgitant disease, upon whom he demonstrated a new method of intensifying cardiac murmurs or other sounds produced within the chest. The patient, who had a very loud cardiac murmur, accompanied by intense thrill, was made to lie upon his back (having been first stripped to the waist) upon a common mahogany table. An ordinary walking-stick was then placed vertically upon the sternum, at the level of the third costal cartilages, and upon the upper end of it was

* Sept. 7, 1872. † 'Temperature in Phthisis,' 2nd edition, p. 25.
‡ 'Text-book of Practical Medicine,' vol. i. p. 229.

poised the sounding-board of a guitar, with the orifice downwards. When this arrangement was completed, and after perfect silence had been obtained, the murmur became distinctly audible to the bystanders.

Dr. Poore remarked that he regarded his arrangement merely as a curiosity, and as a somewhat novel application of acoustic principles. Possibly, with a more delicate and accurately constructed apparatus, it would be practicable to render the sounds or murmurs of the heart audible, for the purposes of clinical demonstration. It is well known that sounds and probes, with sounding-boards attached to them, have been used in this country and abroad for the purpose of clinical demonstration.

XIV.—*Wound of the Portio Dura causing Facial Palsy.*

By W. B. Dalby. *Read December* 13, 1872.

On January 5, 1872, W. A., æt. 40, was seen by Mr. Pick at St. George's Hospital, as an out-patient, and gave the following account:—On the Christmas Day, as he was lying in bed, his little child ran a pair of scissors into his left ear. The scissors had blades about 3 inches in length, with sharp points, and he could not say whether one or both blades entered the ear. The pain was acute; at the same moment he seemed to hear a noise as of distant thunder; he felt his left cheek drawn to the right side, and could not close his left eye; a slight oozing of blood followed, and in a few days a purulent discharge appeared from the ear. On the following Thursday Mr. Pick brought him to me. At the upper and posterior part of the left tympanic membrane there was a very small perforation, with clearly defined red edges; the other part of the membrane was opaque, but not in any degree collapsed; with the mouth and nose closed, he could pass air freely through the perforation. The hearing on this side was so far impaired that he required a raised voice, and a loudly ticking watch was heard at 1½ inch from the ear.

He suffered a good deal from tinnitus in the ear and some headache. The vibrations of a tuning-fork placed on the head were heard more loudly on the injured side. In the course of a fortnight the perforation had healed, and the

tinnitus had disappeared. I did not recommend any treatment for the paralysis or deafness; under Mr. Pick's advice he was treated for a time with blistering over the mastoid process, and small doses of mercury, and was sent into the country. When last heard of, no change had taken place.

I have recorded this case more on account of the rareness of the accident than as possessing any practical importance. The point of interest connected with it is the paralysis following immediately upon the injury, thus showing that the nerve was wounded. Facial palsy as the result of inflammation of the mucous membrane lining the tympanum is not of very unfrequent occurrence, even when the inflammation has not been severe enough to induce a perforation of the tympanic membrane; so that had the paralysis in the present instance been only observed two or three days after the accident, there would have been nothing unusual to excite notice, as a wound of this nature would of course be followed by a certain amount of inflammation in the cavity of the tympanum. The patient, however, stoutly maintained that at the instant he felt the pain in the ear his left cheek was drawn to the right side, and he could not close his left eye.

Supposing the point of the scissors to have come in contact with the aqueduct of Fallopius, it is rather remarkable that it should have taken this direction, for on trying to imitate the accident on the dead subject with a pointed instrument, I find it not very easy to guide it to this part clear of the ossicles: to do this it must enter the tympanic membrane at the upper and posterior part, and pass between the long and short process of the incus, taking an upward direction.

XV.—*Case of Cysts in the Cerebellum.* By J. Lockhart Clarke, M.D. *Read January* 10, 1873.

THE subject of this communication was a naval officer, æt. 47 at the time of his death. He stated that thirty years ago he fell into the hold of his ship; that he was picked up insensible, and remained insensible for eight hours, but that after recovery he was able to resume his duties without any apparent bad effects from the fall. During the first half of the year 1869 he was in the Tagus with his

ship, and while there he suffered very severely from what was considered to be intermittent fever, attended by severe headaches and occasional delirium. In August 1869 he returned to England and came under my care. He then complained of attacks of the most intense pain at the back of his head, shooting through, as he said, to his eyeballs, and extending downwards behind the ears to the back of the neck. His eyes seemed to be drawn backwards in their orbits and to be nearly closed. These attacks recurred every morning about 4 or 5 o'clock, and lasted about an hour. They were usually attended by impairment of vision, by mistiness, and were immediately succeeded by rigors and then by heat of skin, but not by sweating. Frequently in the afternoon he had a milder and shorter attack, which was seldom followed by rigors.

His general health was very much impaired. His skin was yellow, approaching nearly the tint of slight jaundice; his tongue thickly covered with a brownish fur, and his appetite was entirely gone.

He was treated at first with Plummer's pill, Dover's powder and other sedatives, with mild aperients, and then with quinine, iron, and other tonics. This treatment was followed by great improvement of his general health, and by considerable alleviation of his agonising headaches; but still the latter persisted, and every now and then he had very severe attacks.

At first I thought that he had probably abscess of the cerebellum, but subsequently I diagnosed some kind of tumour in that situation. At the end of six weeks he went to live in the country with his wife and children, and some time after became much worse, his headaches recurring more frequently, with greater severity, and lasting much longer, while his sight became more permanently defective.

On May 16, 1872, he came under the care of Dr. Donnett, of the Haslar Hospital, who has very kindly supplied me with the following notes of his condition up to the time of his death.

'He states,' says Dr. Donnett, 'that he had been suffering for the last two years from periodical headaches, which attacked him about midnight, lasted for several hours, and then left him for the rest of the day comparatively free from pain. Three months before I saw him,' Dr. Donnett continues, 'he had remarked that his powers of vision were becoming more defective, his headaches more frequent, and

of longer duration; he could neither read nor write. The greatest pain was felt at the vertex.

'During the time he had been under my observation, the headaches occurred daily, commencing as a rule about 2 A.M., and lasting for several hours. He referred to the vertex as the chief site of pain, but frequently complained of pain extending to the spine, accompanied with a hot, burning sensation at the vertex. He sometimes experienced throbbing, but as this feeling only occurred for a short time before entire cessation of pain, he looked upon it as a favourable symptom. During the latter period of his illness these pains encroached further down along the spinal column, and on the evening previous to his death they had extended as low down as the sacrum. The pains in the head were of a hot, burning character, and were frequently relieved by the application of ice; those of the spine were described by the patient as a feeling of stiffness; frictions relieved this feeling.

'With these pains of the head and spine there was likewise associated dysphagia, and sometimes vomiting; and when vomiting did occur there was much pain felt at that part of the spine which corresponded with the origin of the phrenic nerve. He did not possess the proper power over the movements of his lower limbs in his acts of progression.

'The intellect was always clear, and this clearness continued to the last. On the morning of June 2 he expressed himself free from pain. With the advance of the day, however, the pains returned and gradually increased, until they pervaded the whole length of the spinal column. Frictions, which usually relieved these pains, had lost their power. At 11 P.M. of the same day he felt calmer and then fell into a quiet sleep. At 1 A.M. of June 3 he awoke and was quite conscious; spoke with some degree of apprehension, then lapsed into a state of unconsciousness, and expired quietly at 1.15 A.M. of this day.

'*Post-mortem examination.*—There was general congestion of the venous system of the brain. The substance of the cerebrum was firm; to the feel it resembled putty. Its ventricles were distended with fluid to the amount of above six ounces. Upon the posterior inferior aspect of the left lobe of the cerebellum a clot of coagulated blood, of the size of a florin and one-eighth of an inch in thickness, was found resting; and in the substance of the cerebellum corresponding to these clots two cysts were embedded, communicating one

with the other, the larger one the size of a walnut, the smaller of that of an almond. A yellow glairy fluid filled these cysts. Their walls were formed of three fibrous layers; their internal appearance was opaline, having a yellowish hue, and when pressed between two glass slides they proved to be elastic. The microscope revealed a fibrous structure, formed of a network of delicate fibres, the contents of the cysts, a serous fluid containing exudation granules and blood discs.' Such is Dr. Donnett's Report.

On making particular enquiries in regard to the precise nature of these cysts, their depth from the surface, and whether the clot was of recent date, &c., Dr. Donnett was kind enough to send me the following answers: 'The clot was of recent date; it lay on the outer surface of the cysts and did not communicate with them. The cysts were on the surface, but partly embedded in the cerebellum. The knife divided clot and cysts together, and I believe that the blood-corpuscles found within the cysts were carried in by the knife.' 'I believe these cysts to have been formed over some old blood effusion, which having been absorbed, was replaced by serous fluid. The substance of the cerebellum was, in the vicinity of these cysts, undergoing a process of softening.'

It may be a question of interest whether the formation of these cysts was attributable to the fall on the head which the patient sustained thirty years before. I think it proper to state that his mother died at the age of 67. Twelve years before she fell down suddenly in a state of unconsciousness, and when she recovered her senses she was hemiplegic on the right side, and unable to speak. This was the state in which I found her. She regained the use of her arm and leg, with only some slight remaining weakness; and the power of articulation returned with only some slight impediment. During the next four or five years she had several slight and partial attacks of paralysis, with some additional defect of articulation; she had chalky concretions in the joints of her fingers, and during some of the paralytic attacks she had what appeared to be gouty inflammation of these joints. On subsiding, it left behind chalky deposits. Two years before her death, deglutition became much impaired. A year later she had an attack of partial unconsciousness, which rapidly passed away; but from that time the power of articulation was almost lost.

She could say 'yes,' 'no,' 'shan't,' and one or two other short words, but nothing more. At this time she was almost

wholly unable to protrude her tongue. During two months or more she entirely lost the power to swallow, and was nourished by means of injections. She took strychnine and iron; and regained the power of deglutition sufficiently to dispense with injections, although she was a long time in swallowing even a small quantity of liquid food. She swallowed best in a recumbent posture, and it was evident that the pharyngeal muscles were considerably paralysed. A large collection of mucus in the air-passages frequently excited spasmodic coughing, but she had scarcely any voluntary power over the respiratory muscles and was unable to cough voluntarily. She could scarcely do more than whisper the few words she was able to articulate; the power of straining was completely lost, and large quantities of fæcal matter collected in the rectum. Both arms and legs were very weak, especially the latter, so that she could scarcely walk, even with assistance. Sensation was unaffected.

On post-mortem examination, the kidneys were found to be very small and very granular on their surfaces; their cortical portions were much atrophied, with two or three cysts on their surfaces. The heart was exceedingly flabby, soft, and yellowish, with accumulation of fat outside the left ventricle, which was dilated, and broke down easily under the fingers. There was no disease of the mitral valve. The wall of the right ventricle was exceedingly thin—nearly as thin as that of a healthy auricle. The tricuspid valve was healthy.

At the base of the brain the arteries were atheromatous. The membranes at its upper surface were thick and opaque, with some sub-arachnoid fluid, and numerous patches of white, flaky, and granular matter. They were adherent to the calvarium, which was unusually thick. About 4 ounces of fluid flowed into the calvarium on removing the brain. The surface of the anterior lobes of the cerebrum was much depressed and atrophied. The grey substance of the convolutions was about the usual colour. The under surface of the right crus cerebri was softened. On the outer part of the right corpus striatum were the remains of an old clot, about the size of a horse-bean. The substance beneath it was much softened. In the middle of the right optic thalamus were the remains of another and much larger clot. On the surface of the *left* optic thalamus was a softened and chocolate-coloured depression, and beneath this were the remains of a small clot.

Cerebellum.—In the central white substance, on each side, was a cyst containing turbid fluid. That on the right was about as large as a moderate-sized hazel-nut, and destroyed only part of the convoluted lamina of the corpus dentatum; that on the left was somewhat larger, and destroyed nearly the whole of the lamina. The fluid in the cysts consisted of globular aggregations of oil-globules, some of which were tinted with brown and yellow, and accompanied by crystals and granules of hæmatoidin. The medulla oblongata was curiously mis-shapen, and tilted to the right side; this displacement appeared to be due chiefly to atrophy of the right corpus olivare. At the lower two-thirds of the olive the atrophy was considerable, but diminished along the upper third. Not only was the right olivary body exceedingly reduced in bulk, but the greater number of its nerve-cells were wasted to granular points or small granular masses tinted brown or yellow by pigment. Between the olivary bodies the central part of the median raphe was softened. Neither the hypoglossal nor the vagal nuclei were reduced in bulk to any remarkable degree; but the vagal nucleus, which in man normally contains a certain number of dark pigmentary cells, contained these in much greater number than usual; and many of the cells of the hypoglossal nucleus had lost some of their sharpness of outline, and contained more than their natural amount of pigment. All the central parts of the pons Varolii were very much softened. The softening involved a large portion of the prolongations of the anterior pyramids, and extended backward to within a sixth of an inch of the fourth ventricle.

One of the daughters of this lady is now under my care for paralysis agitans, with a curious complication; viz. permanent contraction of the left wrist, extension of the first phalanges, and contraction of the remaining phalanges. Her diathesis is evidently, like her mother's, gouty. Occasionally she has some inflammation of the joints of her fingers, but scarcely any deposit at present.

XVI.—*Note on the Dressing of Wounds.* By George W. Callender. *Read January* 10, 1873.

It has been often urged that some of the troubles occasionally met with in hospital practice may be traced to the conveyance, by means of sponges, or of other materials used in lieu of sponges, of morbid secretions from one patient to another. I hope the Society will, therefore, excuse me for bringing under its notice very briefly the method employed in my wards at St. Bartholomew's for avoiding any such chance conveyance of infection. Each wound is now cleansed with a camel-hair brush, a separate brush being provided for each patient, and in important cases a new brush being employed at each dressing of the wound. When not in use the brush is kept by the bedside in a solution of carbolic acid in spirits of wine, the simple mechanism required for this purpose being such as I now show the Society.

It may be added, without attributing the result to this plan of wound dressing, or to anything but the general care naturally given to the patients, that in 148 consecutive operations there have been but three deaths, and one of these from causes—internal intestinal obstruction—beyond the control of the surgeon. In this list, however, it is right to add that hernia operations are not included, surgeons knowing very well that such cases are often brought in for treatment when actually in a dying state.

The mode of wound dressing by brushes is very acceptable to the patient, as he is absolutely freed from pain during the operation, and moreover it teaches the dressers to be gentle in their manipulation, and in the management of some wounds the avoidance of all roughness of handling is a material consideration. After the surface of a wound has been thoroughly cleansed, it is usually covered with water-dressing, or with lint steeped in carbolic acid lotion or in carbolised oil. The carbolic acid has been used in our wards since 1862, when it was first employed by Sir James Paget, but it is never used, except experimentally, otherwise than with simple lint dressing to the surfaces of wounds. Over the lint a layer of cotton wool is frequently added for the sake of warmth and for protection.

It may be mentioned that cleansing of wounds by irriga-

tion has been tried from time to time, but in practice it is inconvenient from the difficulty experienced in keeping the water from the bedding.

XVII.—*A Case of Lesion of the Upper Dorsal Portion of the Spinal Marrow, with excessive Lowering of Temperature and Pulse.* By AD. NIEDEN, M.D. *Communicated by* HERMANN WEBER, M.D. *Read before the Society January* 24, 1873.

NUMEROUS cases have been reported in literature of excessive rise of temperature in connection with lesion of the spinal marrow, caused either by physiological experiments on animals or by accidents. But there are very few cases mentioned of the contrary, viz. excessive lowering of temperature attending similar lesions of the spinal marrow.

Benj. Brodie,* and Chossat† of Geneva, communicated several experiments of this kind on animals, in which laceration of the spinal marrow was followed by decrease of temperature of the body. Flourens and Magendie, and especially Claude Bernard,‡ made the same investigations, but the most important communication is that of Dr. Tscheschechin.§ Clinical experience, however, has brought scarcely any cases of this kind to light; therefore, I am glad, at the suggestion of Dr. H. Weber, to bring before the Society a case of luxation of the first dorsal vertebra producing laceration of the spinal marrow, and such an excessive decrease of temperature as, to my knowledge, was never before recorded.

Summary.—Injury to the upper part of the back, loss of consciousness for a short time, complete paralysis of the lower extremities, of the chest, and of the greater part of the trunk. Stranguria. Progressive lowering of temperature and pulse. Consciousness perfect up to 81° F. (27·2° C.), pulse 30 per min. Death on the 11th day after the injury, with a temperature of 80·6° F. (27·0° C.).

* Benj. Brodie, 'Philosophical Transactions,' p. 48, 1811.

† Chossat, 'Mémoire sur l'influence du système nerveux sur la chaleur animale.' Paris, 1820.

‡ Claude Bernard, 'Comptes rendus,' xxxiv. p. 472, 1852; lv. p. 232, 1862; 'Leçons sur la physiol. et la path. du système nerv.,' ii. p. 490, 1858.

§ Tscheschechin, 'Reichert's Archiv für Anatomie,' 1866, ii. p. 151, and 'Deutsches Archiv für Klinische Medicin,' 1867, ii. 6, p. 588.

Post-mortem examination.—Dislocation without fracture of the first dorsal vertebra, compression of the corresponding portion of the spinal marrow, congestion of the lungs and of all the abdominal organs; heart distended with fluid blood; normal condition of all the other parts of the body.

F. D., æt. 60, fell on the morning of his admission down about fourteen or fifteen steps of a staircase. He slipped without altering the position of his body, terminating his fall by coming violently in contact with a wall with both his outstretched arms, by which he was thrown down. On being taken up, he was quite insensible for an hour, but after that time he was perfectly conscious. He felt the complete loss of the use of the lower part of his body, and complained of great pain in the back. Patient could at first pass his water freely. About ten hours after the accident, patient was brought to the German Hospital, when he was placed under the care of Mr. de Méric, who was kind enough to allow me to report this case.

I first saw him on the morning of October 5. Patient was a strong, stout, and healthy-looking man, perfectly able to give an account of the accident, how it happened, and answering distinctly all the questions put to him. He was free from pain when left at rest, but on being moved he complained of great pain across his shoulders and in both his forearms. The lower extremities and almost the entire trunk were perfectly paralysed to motion and sensation as high as the second intercostal space in front and the shoulders on the back. (The skin over the paralysed parts was dry, cold, and white.) There was no fracture or luxation of the spine visible, only the skin over the spinous process of the first dorsal vertebra showed the signs of compression; pressure on the place was painful. The pupils were equal and of natural size; all the movements of the head, neck, shoulders, and arms quite natural. The bladder was paralysed and filled with a large quantity of clear acid urine, which was free from albumen and sugar, and impregnated with phosphates. Priapism existed.

The temperature* in axilla was 95·2° F (35·1° C.), pulse regular and strong, 52 per min. The breathing was performed almost entirely by the diaphragm. The expirations were prolonged, the number of respirations 18 per min. The treatment

* The temperature was measured in the axilla by a nurse four times a day, and controlled by myself at least twice by measure taken in the rectum. The thermometers (by Geissler, Casella, and Hauksley) had been tested before use.

consisted in rest in an almost horizontal position, and the application of twenty cups on the backs. Appetite good; patient preferred soft food, the swallowing of hard substances being difficult to him. For the following three days there was no great alteration in symptoms. Patient was quite cheerful, frequently in conversation with his fellow-patients, accompanying his words sometimes by hurried movements of his upper extremities. Involuntary reflex movements of the lower extremities and muscles of the trunk were very frequent. Patient enjoyed a good appetite and digestion, but the bowels were only moved by enemas; the urine drawn off by a catheter was clear, acid, and free from albumen and sugar. The temperature at first rose gradually to 98·6° F. (37° C.), the full and strong pulse to 68, and resp. to 18 per min. But in the morning of the third day after the injury the temperature began to sink, and for the next three days in the same proportion as it had risen before, so that on the morning of October 10 the temperature was about the same as it had been on the first day: 95·8° F. (35·4° C.), P. 52, R. 16. (The involuntary contractions of the muscles stopped, patient described himself to be in the same good state of health as before, retaining the use of all his senses excepting the sensation of the body below the collar-bones. Perspiration was not observed on the white and cold skin. Urine of the same character as before, and small in quantity.) The temperature during the seventh day (October 11) having remained at 95° F. (35° C.) P. 44, R. 16, was found on the eighth (October 12) morning 4·8° F. (2 7° C.) lower, viz. 90·2° F. (32·3° C.), P. 42, R. 14, and in the evening of the same day 87·9° F. (31·1° C.), P. 42, R. 14. October 13 (ninth day after the injury) patient was in the same state of mind as before, quite sensible, and in use of all his faculties, had good appetite and digestion, complained only of feeling cold on the left side of the body, but upon an examination no difference of temperature was to be discovered between the right and the left side; the temperature rising on that day from 86·2° F. (30·1° C.) to 87° F. (30·5° C.), while the pulse became weaker and smaller, 40 per min. The respiration was more laboured, the expirations being accompanied by rattling noises. Urine without albumen or sugar, and slightly acid.

On October 14 the patient retained his mental faculties, answered distinctly the questions put to him, made frequent movements with his arms, and took his food as usual. The

temperature sank to 84·3° F. (29·1° C.), pulse very weak a small, 34 per min.; movements of the heart not perceptib by the stethoscope; respiration 14.

October 15, sleep was good, respiration much laboured, expiration being prolonged; œdema was found in the lower parts of both lungs. Patient was conscious, answered but slowly when questioned, and did not complain of pain. Temp. 81° F. (27·2° C.), P. hardly perceptible, 30 per min.; breathing began to become irregular, about 16 per min. He continued then to grow worse, and he expired on this day at 10 A.M., the eleventh day after the accident, with a temperature of 80·6° F. (27·0° C.) (The temperature was measured during four hours after death in the rectum and found 5 m. p. m. 80·9° F. (27·1° C.), rising in the next ten minutes to 81·3° F. (27·3° C.), and sank again during the next four hours to 80° F. (26·2° C.))

Post-mortem examination.—Dislocation of the first dorsal vertebra without any fracture of the bones; laceration of the intervertebral ligament. In opening the vertebral canal, the cord opposite the injury was found to be much crushed; there was a vast ecchymosis in the dura mater, the interior of the marrow was softened and transformed into a reddish pulp. The lower part of the spinal cord was congested. The microscopic examination showed a large quantity of granular corpuscles mixed with the fragments of the lacerated and almost dissolved nerve-fibres, and red and white blood-globules. The arachnoidea of the cord and brain rather opaque, but there was no effusion in the ventricles of the brain. The heart was in the state of diastole, the right ventricle dilatated with dark and fluid blood (the valves normal). The lower parts of both lungs were excessively congested and œdematous. There were found small spots of emphysema interstitiale on the surface of the lungs; several extravasations of blood were discovered, together with a considerable œdema of the costal pleura of the left side.

Remarks.—A similar sinking of the temperature to 81° F. (27·2° C.) has not been observed, as far as I know, either in similar cases of lesion of the nerve-centre or in any other disease of the body. Wunderlich* mentions in his classical work the lowest temperature ever hitherto found to be about 89·6° F. (32° C.) in a case of cholera. We learn there-

* C. A. Wunderlich, 'Das Verhalten der Eigenwärme in Krankheiten,' p. 5. Leipzig, 1870.

fore from this case, that life can be continued, under certain circumstances, with a temperature of 81° F. The decrease of temperature was in this case accompanied by the simil a lowering of heart contractions, without disarrangement o the mental faculties of the brain. The respiration was likewise much altered, but the number of respirations was not materially diminished, but the quality was changed; in the same proportion as the temperature decreased, the inspirations became shorter and the respirations longer. The sinking of temperature was not the same for every day, and I think it is worth mentioning that the rise of the temperature in the first three days was accompanied by the frequent reflex movements of the muscles of the extremities. At the moment when they were stopped, the temperature began to sink again. I believe we are justified in thinking this change in temperature on the first three days to be the result of some chemical processes taking place in the voluntary muscles.

The temperature in the axilla was, during the whole illness, nearly 1·0° F. (0·55° C.) lower than that in the rectum, but nearly 0·5° F. (0·27° C.) higher than that in the mouth.

It is only the minority of authors who appear to corroborate our observations of decrease of temperature; whilst the majority have observed, on the contrary, a rise of temperature in all similar cases. That both may happen—viz. that similar lesions of the nerve-centre may produce one time excessive increase, the other time decrease of temperature—must consequently be admitted as proved; but the question is, whether we can find, from our present experiences, the cause of that peculiar fact. I will not occupy the time of the Society by mentioning the numerous communications and hypotheses on this subject, but I cannot forego mentioning that Chossat was the first who observed, that the higher the injury to the cervical marrow was done, the lower was the temperature. He believes, therefore, the place of the lesion to be of direct influence on the change of temperature. Tscheschechin is of the same opinion, that section of the spinal marrow produces lowering, whilst lesion of the medulla oblongata near to the pons Varolii is accompanied in all cases by rising of temperature. He adopts the theory of a heat-producing centre, situated in the spinal marrow, which is balanced by an antagonistic centre in the encephalon; so that the more extensive the injury to the spinal

marrow, the greater is the action of that encephalic centre. Regarding the observations of other authors in summary, we find: that *rising* of temperature is mentioned by Tscheschechin after injuries to the upper parts of the medulla oblongata, by Weber* after lesion of the spinal marrow corresponding to the 3–4th cervical vertebra, by Symon† of the 4–5th cervical vertebra, by Brodie‡ of the 5–6th cervical vertebra, by Hutchinson§ and Budge‖ of the 7th cervical and 1st–2nd dorsal vertebra. But *sinking* of temperature in injuries of just the same localities as before were observed by Chossat in dissecting the medulla oblongata and upper cervical marrow, Claude Bernard¶ and Tscheschechin in lacerating the whole cervical marrow, and in one case after injury to the spinal marrow, corresponding to the first dorsal vertebra.

After regarding these facts, it appears to me not probable that the locality—viz. the higher or lower situation of the lesion of the spinal marrow—can have influence in raising or lowering the temperature of the body.

Other observers supposed that the change of temperature depends upon the extent of destruction of the nerve-centre: Claude Bernard** declares, that injury to the *sensitive* fibres of the marrow produces rising, that to the *motor* fibres lowering, of temperature. Brown-Séquard†† and Schiff‡‡ stated, that *total* destruction of the spinal marrow has been followed by increase, that of the motor fibres only by decrease, of temperature. But what must we think about that hypothesis, when we find that Brodie, Chossat, and Tscheschechin found just the contrary fact, viz. sinking of temperature after total laceration of the spinal marrow?

That none of these theories is perfectly conclusive; that neither locality nor extent of injury can be of a direct influence

* H. Weber: Case of lesion of the cervical portion of the spinal marrow, exhibiting the phenomena of heat-stroke. 'Clinical Society's Transactions,' vol. i. p. 163, 1868.

† Symon, 'Archiv für Heilkunde,' ii. p. 547.

‡ Benj. Brodie, 'Medico-Chirurg. Transact.' vol. xx. p. 118–164, 1837.

§ London Hospital Reports of 1866—Case of fracture of the first dorsal, and displacement of the last cervical vertebra. Paralysis. Pyrexia.

‖ Budge, 'Medic. Zeitschrift von dem Vereine für Heilkunde in Preussen,' xxii. p. 179.

¶ Claude Bernard, 'Comptes rendus de l'Académie des Sciences,' xxxiv. p. 472, 1852, et lv. p. 232, 1862.

** Claude Bernard, 'Leçons sur la physiol. et pathol. du système nerveux,' ii. 490 1858.

†† Brown-Séquard, 'Experimental Researches,' p. 77, 1853.

‡‡ Schiff, 'Untersuchungen zur Physiologie des Nervensystems,' p. 226, 1855.

on the change of temperature, is proved by the contradictory experiences of the authors.

Therefore we must admit that the pathology, as far as our present observations go, is still perfectly obscure. We do not know the cause of increase of temperature in one, and decrease in the other patient, who both are suffering from an injury of the same description. Likewise the theory of Tscheschechin does not agree quite to our present knowledge, because physiological and pathological experiences show quite clearly that total laceration of the spinal marrow (i.e. the seat of his hypothetical heat-producing centre) is followed oftener by rising than decreasing of temperature.

I think, gentlemen, we shall understand our case better if we forget at present the hypothesis of a centre of heat, and suppose that the cause of the anomaly of temperature is to be found in the want of proportion which exists between the proportion and loss of heat in a body disturbed in all its organs by such an injury to the nerve-centre.

I will not take up your time by entering into the details of our case and examining the sources of production and expenditure of the heat. Allow me only to remind you of the similarity of the phenomena of our case and those of the well-known physiological experiment, showing that animals covered over the whole surface of their body with varnish or oil-colour are suffering from the same excessive sinking of temperature, which is, as the very interesting observations of Dr. Krieger * have brought to light, caused only by the enormous loss of heat on the surface of those animals.

XVIII.—*The Results of Twelve Cases of Operation for Stricture as seen when tested by Time.* By W. F. Teevan, B.A., F.R.C.S.

THERE is scarcely any subject in the whole range of surgery which elicits such varied and contradictory opinions as the treatment of stricture of the urethra. How is this? Is there anything so difficult regarding the subject that we are unable to obtain facts and make deductions? Not at all. Whatever difficulties may exist arise simply from the subject being viewed in an imperfect light. There are plenty of facts, but they do not all come to the surface. The reason

* Dr. Krieger, 'Zeitschrift für Biologie,' v. p. 476.

why there should be any difference of opinion regarding the treatment of stricture arises from two separate causes. Immediately after each operation there are a set of results to be seen which are temporary, uncertain, and often misleading. At a later period we see other results which are abiding and worthy of acceptance. The first are usually published in abundance; of the others we see but little. Then, again, we find that deaths after operations for stricture are rarely published, so that we are deprived of most valuable evidence.

It is my intention at the close of each year to submit to the criticism of the Society all the cases of operation for stricture, whether operated on by myself or others, which have come under my notice during the year, and which have been submitted to the test of time. We shall thus be enabled before long to arrive at the real values of the various operations which are practised for stricture.

CASE I.—*External Division of the Stricture on a grooved Staff: good result.*

G. B., æt. 58, cabdriver, was operated on by Mr. Coulson twenty-six years ago. The patient has been in the habit of passing a No. 9 metal catheter every other Sunday until six months ago, when he hurt himself in introducing the instrument. This was followed by an abscess in the perinæum and a subsequent fistula. As no catheter had been passed for six months some slight contraction had taken place. I dilated this man's stricture, gradually, up to a very large size, and when I last saw him, Sept. 28, 1872, he was nearly well. If this patient had used an elastic French catheter instead of the English metal one he would have escaped the abscess and fistula.

CASE II.—*Puncture of Bladder through Rectum: bad result.*

W. M., æt. 68, shoemaker, had retention of urine thirteen years ago, and he states that he was admitted into Middlesex Hospital, where his retention was relieved by puncturing his bladder through the rectum. He remained in the hospital eight weeks, and when he left only a very small instrument could be passed through the stricture. This patient paid me twelve visits at the hospital. I could only get in No. 1 French elastic filiforme bougie, which is about one-sixth of the size of an English No. 1. When I last saw him I had got him up to No. 8 French. He had three strictures: two in penile urethra and one in the sub-pubic region.

CASE III.—*Puncture of Bladder above pubes: good result.*

W. O., æt. 68, was operated on by the late Mr. Earle, thirty-five years ago, at St. Bartholomew's Hospital; an instrument was retained in the bladder for ten weeks. From time to time this patient goes to a hospital, wherever he may be, to have an instrument passed. I only saw this patient once, when I introduced a large-sized catheter into his bladder with ease.

CASE IV.—*Internal Urethrotomy: bad result.*

This case was that of a French gentleman, whose strictures were divided, about eight years ago, in Paris, by Leroy, fils. The patient states that he had to leave Paris a few days after the operation, and did not give the operator a fair chance. I found that he had two very tight strictures, only admitting a No. 3 French. I cured him by gradual dilatation with French elastic bougies.

CASE V.—*Immediate Dilatation, or 'Splitting': bad result. Operation repeated a Second Time: bad result.*

J. N., æt. 52, sailor, had his stricture 'split,' eight years ago, at a hospital in London. Instruments were passed twice a week for some time, but the stricture relapsed. Two years ago his stricture was again 'split' at the former institution, and he passed a catheter twice a week until about six months ago, when the occurrence of heavy weather at sea prevented him, and when he again tried he found the stricture had contracted so much that he was unable to effect entry. When he came under my care I could only introduce a No. 4 bougie. By keeping an instrument in this man's urethra for two hours at a time I was able to dilate the stricture, but it speedily contracted again. There were two very hard strictures which could be felt enclosing the urethra, like finger rings. On account of the character of these strictures I advised the patient to permit me to divide them subcutaneously, and, as he readily consented, I performed the operation on July 26, 1872, in the presence of Dr. Green, of Paris, Dr. Henry Dick, and Dr. Magrath, and passed one of the largest instruments into the bladder with ease, and kept it there for half an hour. The patient left the hospital two days afterwards. Three weeks after the operation he called on me before he sailed, and said he was quite well and could pass the largest known catheter with ease.

CASE VI.—*Immediate Dilatation: bad result.*

W. B., æt. 58, shoemaker, had his stricture split up, eight years ago, at a hospital in London. An instrument was passed once a week for six weeks after the operation. He speedily relapsed into his former condition. Every six weeks he gets an attack of rigors, and he makes water with difficulty. He says that he has suffered so much that he will not permit any surgeon to pass an instrument again.

CASE VII.—*Immediate Dilatation: bad result.*

W. S., æt. 39, had his stricture split up, eight years ago, at St. Peter's Hospital, by Mr. Armstrong Todd. In order that the operation might have the best possible chance of success, the patient was kept in the hospital for ten weeks, and an instrument was passed every other day. The patient left, apparently cured. Three years afterwards he had relapsed into his former condition, and came to me for relief in March 1871, and again in December. During January he paid me eight visits, and when I last saw him he could not take a larger instrument than No. 8 French, equivalent to No. 3 English.

CASE VIII.—*Stricture split: bad result.*

J. H., æt. 45, stonemason, had his stricture split, eight years ago, at a hospital in London. Instruments were passed every other night for two months. When the patient came to me, on May 18, 1872, I could only get a No. 2 English catheter into the bladder. He paid me fourteen visits, and I gradually dilated his stricture up to No. 10 English.

CASE IX.—*Stricture split: bad result.*

G. C., æt. 32, had his stricture split up, eighteen months before he applied to me, by a surgeon at a London hospital. Instruments were passed once a week for a month. Two months later he was as bad as ever. Since then he has had two attacks of retention, which were relieved, at the hospitals where he sought advice, by hot baths and medicine: no instrument could be passed. On December 7, 1872, he came to me for retention. I was unable to pass the finest catheter, but succeeded in introducing a very fine bougie.

CASE X.—*Stricture split: bad result.*

A gentleman, æt. 45, personally known to Mr. Coulson, came under my care on August 13, 1872. Eight years ago his

stricture was split by a hospital surgeon in the provinces, and instruments were passed twice a week for five months, but the stricture contracted so rapidly, that each week a smaller catheter had to be used, so that at the end of six months the patient was as bad as ever. Since then the gentleman has relieved his attacks of retention of urine by passing a No. 2 catheter down to the stricture, but not through it. The only way I could get on with this case was by introducing a very small elastic conical bougie as far as it would go, and keeping it in for half an hour, when I replaced it by a finer instrument, which I succeeded in passing into the bladder. Before the patient left Town I had gradually dilated his stricture up to No. 15 French.

CASE XI.—*Stricture split: bad result.*

A gentleman, æt. 40, personally known to Mr. Coulson and Dr. Garrod, had his stricture split by a surgeon to a London hospital four years before he came under my care. No instruments were passed after the operation, as he imagined he was cured. When he came under my care I could only pass a No. 3 English size. He was completely cured by me by gradual dilatation, and he occasionally pays me a visit to have a large instrument passed.

CASE XII.—*Division of Strictures in median line without any guide: good result.*

The details of this case will be found at p. 165 of the fifth volume of the Society's Transactions. The operation was performed by me four years ago, and proved a perfect success. The patient comes to me every four months to have an instrument passed.

XIX.—*History of a Case of Soft Malignant Tumour in the Parotid Region, cured by Caustics. No return three years subsequently.* By HENRY ARNOTT. *Read February* 14, 1873.

BENJAMIN M., a horsekeeper, married, æt. 35, with good family history, and fairly good personal history, save for intemperance and occasional epileptiform fits, noticed, about the end of July 1868, some swelling in the

neck, for which, after a few weeks, he consulted one of my surgical colleagues at the Western General Dispensary, under whose care he was for an ulcer on the leg. This gentleman regarded the swelling as a strumous enlargement of the glands, and presently lanced it. Only blood flowing from the puncture, a doubt arose as to the nature of the tumour, and the man was sent on to me. When I saw him some nine weeks after the first appearance of the swelling, it had acquired an unmistakably cancerous appearance, with soft lobulated purple surface, marbled with enlarged veins. A grooved needle inserted into a soft spot brought out some grumous bloody matter, showing under the microscope diverse cell forms, many caudate, and some with rapidly multiplying nuclei.

The tumour now began to increase with startling rapidity, doubling in size in ten days. The skin freely gave way at more than one point, copious bleeding occurred three or four times, and two or three lymphatic glands above the clavicle became enlarged.

I was very anxious to tie the carotid in order to check the growth and control a bleeding which promised to abruptly terminate the case, but the man's domestic arrangements forbade any operation at his own house, and I therefore, holding no hospital staff appointment myself at that time, sent him into the Middlesex Hospital, under the care of the late Mr. C. H. Moore.

On admission, September 28, 1868, I made the following note in the hospital register:—

'General health not notably affected. A soft projecting mass the size of half a tennis ball, partly covered by thin vein-streaked skin and partly ulcerated, lifts up the lobe of the left ear and springs from a wider, firmer growth occupying parotid region, 4½ inches in diameter, overlapping the ramus of the jaw in front, and apparently dipping deeply behind that bone. The projecting brain-like part bleeds extremely freely at times, and almost pulsates. It is hot to the touch, and patient complains of throbbing pain in it. Two or three thread-like lines are felt to run down to as many slightly hardened glands over the clavicle.'

Two days later Mr. Moore tied the left common carotid artery, with the effect of at once arresting the throbbing pain, and of partially blanching and cooling the tumour. When the mass was prodded with the scissors after the ligation there was hardly any bleeding.

A fortnight afterwards (Oct. 15) the following note was made: 'The tumour is now nearly three times as large as on admission, flattened, and ulcerated on the surface, not painful, or very little so; but he complains much of throbbing pain in the left side of the head, keeping him from sleep. The ligature put on the carotid came away in the dressing to-day.' Fell's paste—chloride of zinc—was now applied to the tumour in the usual way, and renewed from time to time. On Oct. 26—eleven days later—Mr. Moore removed the surface of the hard eschar, grooved the remaining portion, and poured in a semi-fluid caustic of chloride of zinc, potassa fusa, and water, covering the whole with Fell's paste. Patient said he felt no pain when these caustics were applied to the growth.

Similar treatment was pursued, with the effect of keeping the tumour on a level with the surrounding skin, until the man left the hospital at his own request on Jan. 19, 1869. At this time he was beginning again to suffer much pain, and had acquired a sallow tint and wasted appearance, which showed profound general disturbance, and made him anxious to get away to die at home.

Feb. 9, 1869.—Patient again admitted, now so weak as to be forced to keep his bed, and with the growth much increased during the past three weeks.

Again the same treatment was applied from time to time, with good diet and tonics, and the man went out in about the same condition, but able to crawl about, after six months —Aug. 17, 1869. He came in again in September with fresh sprouting and bleeding, and again the caustics were had recourse to.

On March 8, 1870, the patient was readmitted for the fourth time, and I find the following note of his state made by Mr. Morris, who was then surgical registrar:—

'General health pretty good. There is a large red moist-looking growth behind inferior maxilla on left side over parotid region, involving lobule of left ear and extending to meatus externus. Backward it reaches to outer edge of mastoid muscle, and downward to a line on level with angle of lower jaw. The mass of disease raised above the level of surrounding parts.'

The old treatment was adopted, and afterwards continued by Mr. Hulke, who took charge of the case when Mr. Moore's fatal illness overtook him. Mr. Hulke renewed the caustic paste from time to time as fresh button-like sproutings

appeared, allaying the pain by opiates, and finally the man left the hospital, on June 6, 1870, with a depressed sound cicatrix occupying the position of the tumour.

In October 1871, Maule came to my house to ask me about some varicose veins in his leg. At this date he was thin and still subject to occasional fits, but otherwise healthy. A large depressed burn-like scar occupied the left parotid region, quite thin, supple, and easily pinched up, neither tender nor painful. Close under the ear the scar was adherent, and partly concealed by the remains of the ear were two bean-like firm nodules, pale, and raised three or four lines, but free from all pain, and gradually dwindling. No enlarged lymphatic glands could be made out.

In November of the following year I met the man again. He was wheeling a barrow of manure, and looking so strong that I should hardly have recognised him but for his coming up to speak to me. He told me he was now 'first class,' that he had never had the least uneasiness about the neck since the last note; that for the past three months he had not touched a drain of beer or spirits, and that he felt another man in consequence; that he 'went to his work of a morning as fresh as a child, and didn't know now what pain was.'

As the Fellows present may see, this happy state has persisted until now.

Remarks.—I have been very glad of the opportunity of bringing this case under the notice of the Fellows of this Society, although all the credit of a line of treatment so determined and so successful, belongs to the late Mr. Moore and to Mr. Hulke. It seems to me that a result so happy and, I must add, so unexpected, demands the earnest consideration of practical surgeons.

Here is a man who, four and a half years ago, appeared like to die very shortly of a soft, extremely vascular malignant tumour in a region in which any operation for the removal of a large infiltrating growth is necessarily out of the question; and now the same man is in—for him—vigorous health, supporting his wife and family by constant hard work, and with only an unsightly scar to suggest the formidable mass which has been destroyed. The bare recital of such a case in the most abbreviated form, such as I have been fain to adopt to-night, suggests many interesting enquiries and reflections. I have time only to comment on one or two points.

Firstly: The case is full of encouragement for those

surgeons who, seeing no chance of cutting off a cancer cleanly, prefer to let the disease alone and aim only at relieving pain. It shows how the vigorous employment of caustics can be trusted to take the place of the scalpel in situations the least promising for such uncertain destructive agents. And,

Secondly: We may learn by such a case as this to persevere again and again with our local remedies as often as a local recurrence of the disease renders our interference necessary. Many surgeons will grapple with a primary cancer, but will refuse to meddle with the tumour which sprouts from the scar of the first operation, fearing that that return is the expression of a profound constitutional dyscrasia which is beyond their efforts; whereas, in nine cases out of ten, it only means that the first operation was not quite sweeping enough, and that a speedy attack upon the returning malady will be probably successful, unless other parts are already obviously affected.

That the disease is entirely vanquished in the present instance, I am nowise prepared to affirm. Knowing the long periods during which certain of the sarcomata may remain quiescent, to take on again rapid growth after an uncertain interval, I think it very possible that I may have to relate the too customary sequel to this case, on some other occasion. Meanwhile, however, the disease is quite in abeyance; and, unlike what we might expect from the commonly received teaching, the man is showing no sign of cachexia, now that the local ailment has ceased to annoy him, although at one time the cachectic look was painfully marked.

As to the form of cancer present, I presume it was one of the softer sarcomata, in which large spindle cells predominate, but we never had any chance of microscopic examination after my first attempt with the grooved needle in the early history of the tumour.

XX.—*Congenital Absence of both Arms.* By Thomas Smith. *Read February* 14, 1873.

THOMAS C., æt. 4, was admitted under my care into the Children's Hospital, January 14, 1873. He was a robust, healthy boy, born at the full time. Dr. Winter, of Brighton, who attended the mother in her confinement, has been good enough to inform us that the labour was

natural; that the mother suffered from no accident during her pregnancy; that there were no bands or adhesions found about the child when born; and no vestiges of limbs within the membranes.

The upper limbs are entirely absent. There is a small dimple on each side upon the prominence of the shoulder over the position of the glenoid cavity. There is no projecting stump of an arm, and no trace of a humerus is to be felt; the shoulders are well padded with fat, the pectorals are well developed, and also, apparently, the muscles of the posterior fold of the axilla; the clavicles are well developed, and articulate normally with the acromion on either side. The glenoid cavities are quite empty; they do not seem to be so sharply defined in their margins as is natural; in other respects the scapula is well formed. The boy has free movement of his shoulders in every direction; he can grasp objects between his cheek and his acromion process. The prehensile power of his toes is well developed: he can pick up a small coin from the ground easily. The great toes possess a good range of movement in every direction.

There is a keel-like prominence observable down the forehead at the junction of the two halves of frontal bone. In other respects the boy is well formed.

XXI.—*Two Cases of Thyrotomy for the Removal of Growths from the Larynx.* By W. Pugin Thornton. *Read February* 14, 1873.

Case I.

Albert H., æt. 24, a woolstapler at Halifax, came under Dr. Morell-Mackenzie's care at the Hospital for Diseases of the Throat in January 1872, having first consulted him in the spring of the previous year. In December 1868 the patient noticed his voice was slightly hoarse, and his upper notes in singing were shrill. The following month he completely lost his voice for a short time, and suffered from aphonia several times during that and the following year. In January 1871 his voice was almost suppressed, and his breathing began to be affected in April, when he went to London and saw Dr. Mackenzie. At that time great thickening of the left ary-epiglottic fold, and slight ulceration of left ventricular band were found. Lungs were perfectly

healthy. Dr. Mackenzie saw him two or three times, and he then returned to Halifax, having been directed to employ sedative inhalations.

One night in June, being taken with a very severe paroxysm of suffocation, Dr. Smith, of Halifax, performed tracheotomy. A few weeks after the operation he was able to return to his business, but experienced great inconvenience on account of his loss of voice. At the beginning of 1872 he came up to consult Dr. Mackenzie again, who found the whole of the larynx covered with large vegetations. He advised the patient to enter the wards of the hospital. On admission, though very thin, the patient appeared in fairly good health. His swallowing was unimpaired. Voice was completely lost, and his whisper was scarcely audible.

It was determined to perform thyrotomy at once, and on February 4 I removed the tracheal canula, and extended the incision to the upper margin of the thyroid cartilage. In enlarging the wound, there was rather free hæmorrhage. The larynx was found to be filled with growths, which were attached to all parts of the mucous membrane. These were removed in the first instance with cutting forceps, and afterwards their bases were cut with scissors as close to their origin as possible. Nitrate of silver was afterwards applied, and the parts brought together with silver sutures. The canula was not returned. After removal of the growths, the left ary-epiglottic fold was seen to be very much thickened. Dr. Whipham, who kindly made a microscopic examination of the growths, states that 'they were composed of connective tissue, in which were embedded numbers of racemose glands; and in their neighbourhood were large collections of more or less flat hexagonal cells. These groups were larger and more numerous in the immediate proximity of the glands —in which the epithelial growth had doubtless originated.' The day after the operation the patient breathed fairly well, but he had considerable difficulty in swallowing, and on February 6 the breathing was so bad that the canula had to be replaced in the trachea. The difficulty of swallowing continued in a severe degree for ten days, when it gradually subsided, and at the end of a fortnight from the day thyrotomy was performed he was able to swallow almost as well as he did before the operation. The sutures were removed and the canula was taken out for a few hours every day; it was found, however, that the patient could not breathe for any length of time without the tube, and it was consequently

replaced. He was now able to speak in a loud whisper, but could produce no true vocal sound. He continued to improve for about three weeks, but on March 18 (six weeks after the operation) his swallowing again became difficult. At the end of the month his whisper was scarcely audible. Owing to the irritable condition of the throat, the great amount of secretion, and the pendulous state of the epiglottis, no satisfactory laryngoscopic examination could be made. In June, however, on examining him, it was observed by Dr. Mackenzie that the arytenoid cartilage was considerably displaced. There was also a swelling about the size of a marble externally in the neck over the centre of the left ala of the thyroid cartilage. It was now believed that there was extensive perichondritis. He left the hospital in July; his condition at that time, compared with what it was when he entered into the hospital, being considerably worse, for he now suffered from dysphagia, and his general health was much deteriorated. In September dyspnœa began to come on, owing to the lower extremity of the canula becoming blocked up with portions of growths and disorganised tissue; there were also large fleshy granulations at the orifice of the wound.

Dr. Smith, of Halifax, writes of him as follows:—'I saw Albert H. on October 29, and found that for some days past he had been unable to take any food, for everything he attempted to swallow passed out above and below the tube. I fed him then by an æsophageal bougie, and after a few days he was able to feed himself in this way. He gained considerably in strength, and improved in every respect up to November 20, when, in passing some beef-tea through the catheter, he was immediately choked, and coughed up the food through the tracheal tube: a good deal of increased cough followed this accident. On the 22nd he failed to pass the bougie, and after repeated attempts there was considerable hæmorrhage. All efforts on my part to pass an instrument also failed, and from now to the time of his death, December 14, he was entirely supported by nutritious enemata.'

From the history of this case, and from the microscopical examination, there can be little doubt that the disease was epithelioma.

Case II.

A. G., a tailor's child, æt. 2½, was brought to the Hospital for Diseases of the Throat on June 11, 1872. He was

admitted as an in-patient, under Dr. Semple, on June 14. The history of the case is as follows: Immediately after birth, though a fairly strong baby, his cry was noticed to be weaker than that of other children, and it was observed that the sound had a peculiar harsh character. His breathing was natural. When he was 2 years old he suffered from what is called 'a severe attack of croup;' after recovery from this his voice was found to be very much harsher, and the breathing often difficult at night time. These symptoms increased, and three months later—that is, in March 1872—his voice was completely lost, and his breathing was short during the day as well as night. He continued to get worse, and for three weeks previous to his admission his breathing was so oppressed that he could not walk across the room; indeed, he had such orthopnœa that it was difficult for him to get any rest.

On admission the child was seen to be in a fair state of nutrition, though he exhibited signs of embarrassed respiration, there being considerable stridor in his breathing and some lividity of countenance. He occasionally coughed in a sharp croupy manner. There was no difficulty in swallowing. The previous treatment had consisted of emetics and poultices. Dr. Semple made a laryngoscopic examination, and discovered a number of small warty growths growing on both vocal cords.

On Sunday, June 16, the dyspnœa having suddenly become severe, I performed tracheotomy, and on Tuesday, the 18th, in the presence of Dr. Semple and Dr. Morell-Mackenzie, I removed the canula and performed thyrotomy. The divided portions of the thyroid and cricoid cartilages and of the trachea being held back, I was able to obtain an excellent view of the interior of the larynx, and found several warty excrescences, as Dr. Semple had previously diagnosed, on each vocal cord; there were also two small growths on the mucous membrane below the right vocal cord. These were removed with cutting forceps, and solid nitrate of silver was afterwards applied to the bases of the growths. The parts were then brought together with silver sutures. The child passed a good night, and slept with his head low, though he still showed a little stridor in his breathing. Two days afterwards he breathed perfectly well. On the third day after the operation he had a fit of passionate crying, during which the sutures gave way; they were replaced, but on the following day again they were torn away by the violence of his screams; after this the parts were brought together with

plaster, but the wound was not entirely healed until three weeks after thyrotomy had been performed.

For the first month the boy was not allowed to attempt to sound his voice, but on July 20 the condition of the vocal function was tested, and it was ascertained that he could produce a laryngeal sound. The voice, however, was feeble and harsh, and could only be heard at a distance of about 2 feet. Six weeks after the operation it was noticed that his breathing was slightly stridulous, although it did not seem seriously embarrassed. He was considered well enough to be made an out-patient. After a short time he discontinued attending, and he was not seen until November 4. His breathing then was free from stridor, but his voice was reduced to a whisper. On December 13 his breathing was again slightly stridulous, and his sister stated that he made a considerable noise in his sleep. On January 10 I performed tracheotomy on him, it being considered undesirable to subject the child to a second operation of thyrotomy, but that he should wear a tube until he was of such an age that an attempt could be made to remove the growths *per vias naturales*.

There is no doubt that the recurrence of the growth has already taken place in this case, although the child is so frightened from previous operative measures, that it is impossible to make any laryngoscopic examination.

These cases tend to show the difficulty of effecting complete extirpation by the operation of thyrotomy. The first case was undoubtedly one of cancer, and the operation would not have been undertaken had it not been that the aphonia rendered it impossible for the patient to gain his livelihood. The history also proves that the operation may give rise to dysphagia, and there can be no doubt that the patient's life was shortened, if not actually caused, by inanition. In a similar case I should not be prepared to recommend this operation.

The second case belongs to that class in which the cutting operation appears most justifiable. The tender age of the patient rendered laryngoscopic treatment impossible. Nevertheless, recurrence rapidly took place. This recurrence is possibly due to incomplete removal, and it may be observed that the same result followed in the cases of Dr. Gouley, Dr. Voss, and twice in that of Mr. Davies Colley. When the larynx of a young child has been opened by thyrotomy, the cavity is extremely small, and whilst there is danger of

leaving some of the base of the growth, there is also a great risk of removing too much of the normal tissues, and of causing permanent loss of function. This is the only explanation I can offer of the very frequent recurrence that has occurred when children have been operated on.

XXII.—*A Case of Congenital Absence of the Sternal and Costal portions of the Pectoralis major and the Pectoralis minor.* By J. BURNEY YEO, M.B., Lond.; M.R.C.P.

DR. YEO, in introducing this patient to the Society, observed that the case was one of anatomical rather than of clinical interest, but it had come under his notice *clinically*, and therefore he thought it might prove of interest to this Society. The great apparent deformity of the chest wall, in this case, had led the patient's relatives to believe that there existed some grave intra-thoracic disease; and he was, on that account, brought as an out-patient to the Brompton Hospital. The boy who presented this curious muscular deficiency was 14 years of age, small, but in other respects well made. There was great apparent deformity on the right side of the chest, flattening and depression. It was easily evident that there was some muscular defect in the chest wall, and on careful examination it was found that the whole of the lower (costal and sternal) portions of the pectoralis major were absent and also the pectoralis minor. By passing the forefinger of one hand into the axilla, and that of the other hand behind the acromial end of the clavicle, the absence of the tendon of insertion of the pectoralis minor into the coracoid process could be clearly ascertained. The clavicular portion of the pectoralis major was much hypertrophied, and stood out in prominent relief to the greatly flattened chest wall. There was also noticeable hypertrophy of that portion of the latissimus dorsi which forms the posterior axillary fold. The radial arteries on the two sides were very unequal, that on the right side being much smaller and weaker than that on the left. The deformity in the chest wall was due not only to the absence of the muscular fibres of the pectoralis major, but also to distinct depression and flattening—due to imperfect development—of the corresponding half of the sternum and the adjacent costal cartilages. There appeared to be no ensiform

appendage. Cyrtometric tracings showed a remarkable difference in the outline of the two sides of the chest, and measurement of the chest 1 inch above the nipple gave $12\frac{1}{2}$ inches for the *right* half circumference and $13\frac{1}{2}$ inches for the *left*.

Dr. Yeo believed it was a rare case, as he had enquired of Professors Flower, Humphrey, and John Wood, and they all assured him they had not seen a living example of the same kind.

XXIII.—*Further Progress and post-mortem Examination of a Case of Aphasia.* By J. G. Glover, M.D. *Read February* 21, 1873.

FOR the particulars of my case I may refer the members of the Society to the last volume of our Transactions. Speaking generally, I will only remind them that the loss of the power to call objects by their right names was very marked. For example, on being shown a book and asked what it was, the patient said, 'good,' 'house,' 'butter.' On being asked to write what it was, he wrote, 'a good'—he then remembered the right word. On September 19, shown a ring, and asked 'What is that?' He said, 'a knife.' On the same day he was very much puzzled with a purse, and stumbled about among wrong words. Another day, shown a watch, he said '*tempus fugit*,' but could not say the name. An interesting feature of the case at first was the absence of hemiplegia, either right or left, but there was, after the first or second attack, some degree of loss of seizing power in the left hand, so that one day he came to me in great exultation, saying that he could *now* pick up a pin with the left hand. The so-called attacks were of short duration, and of an epileptiform character, characterised by giddiness, more or less unconsciousness and confusion of words or loss of speech, sometimes falling and foaming at the mouth, &c. The face was drawn, on the second attack, to one side, but the particular side could not be remembered by his friends.

Five months after detailing his case to the Society, in November 1871, his means were exhausted, and he went into the Islington Workhouse, where he continued till his death on October 3, 1872.

Mr. Cowen, of the Islington workhouse, kindly took a particular interest in the case, at my request, and made various notes of the patient's condition. For example, on May 23, he gives evidence of the aphasic condition continuing. Also he put in his notes the following query: 'Is the face not a little drawn to the left—but doubtful?' notes slight coldness of the left arm, hand, leg, and foot. He adds: 'There is nothing the matter with the right side, arm, leg, or face.' Further, Mr. Cowen says: 'The patient is not so well able to pick up with his left hand as with the right; otherwise, motion is not impaired. No loss of sensation in right or left side.' He continued in fair health and improved in flesh and appearance, but his speech remained the same until his last illness, of which I shall give Mr. Cowen's account:—

'On September 24, 1872, at 6 A.M., he had another "fit;" he was sensible, understood what was said to him, but could not talk any words: only a few broken sounds. His eyes were congested; face blown into a bag on right side at each expiration.

Face, left side.—Constant convulsive movements of the muscles; mouth drawn to left side, upwards.

'Right arm and right leg.—Sensibility impaired. Motion.—He can move them, but not so freely as the other side. Involuntary motion, none.

'Left arm and left leg.—Sensibility, good; motion, good; can grasp with the hand, and can hold a cup of tea tremulously, which he *cannot* do with the right hand.

'Left side—Muscles of arms, fingers, toes, and face are in constant involuntary convulsive movements.

'Temperature, right side, in axilla, 97⅘°.

'Temperature, left side, in axilla, 98°.

'The right *arm felt* much more cold than the left.

'Pulse, right side: *very* weak.

'Pulse, left side: fair strength.

'This state continued eight to ten hours, when convulsive movements ceased. He had control over bowels and bladder until the close, when fæces and urine were passed in the bed.

'He then remained rather restless all night, wanting to get up and dress himself; got out of bed on a few occasions; seemed rather delirious.

'Next morning, on September 25, he got out of bed and fell on the floor, seized with insensibility, which lasted two hours. He then became better, regained consciousness, but relapsed into a comatose condition, which lasted all day.

'September 26.—Better; sensible; cannot speak nor utter sounds; knows people; knows what is said to him. He blows out all food, only partially swallowing it (glosso-pharyngeal paralysis?) Was more easily fed by a funnel in nostril. Thoracic muscles of respiration appear fixed. He breathes more by abdomen. Pupils normal. Other symptoms as before.

'27.—Inclined to be dozy until roused. Pupils normal. Heart sounds healthy. Passes fæces and urine involuntarily; no accumulation of urine in bladder. All other symptoms remain the same, but there have been no convulsive movements since the first day.

'29.—Symptoms same; pulse irregular.

'October 2.—No pulse *left* arm; no pulsation left femoral artery. Left arm and left leg cold; left leg livid.

'3.—Cadaverous appearance.

'10 A.M.—Breathing heavily—long-drawn inspirations. Comatose.

'11 P.M.—Died.'

Post-mortem Examination. Present, Mr. W. B. Kesteven, Mr. W. Henry Kesteven, and Dr. Glover.

OCTOBER 4, 1872.—The body was fairly nourished; there were the traces of bruise on the left side of the forehead and face, the skin being grazed. On the front of the left thigh above the knee the integuments had a red colour and felt slightly harder than other parts.

The heart was healthy, except a very slight degree of thickening of the semilunar valves; there were no traces of vegetations on either of the valves of the heart.

The other viscera appeared to be in a normal condition.

The femoral artery, when exposed, presented a reddish colour, about three inches below the groin. When laid open, this part was found to be filled by a soft black clot.

A soft black clot also plugged the brachial artery from a point opposite to the insertion of the deltoid down to the division of the artery for the forearm. This division took place much higher than usual—viz. above the bend of the elbow.

Head.—A small quantity of serum was found beneath the arachnoid, which had an opaque appearance; the opacity, however, disappeared as the serum drained off. There was a thin layer of extravasated blood covering the anterior convolutions of the brain on the left side corresponding to the

bruise on the left forehead, and a greater fulness of the meningeal vessels in that region. The middle cerebral arteries contained coagula.

The following is the Report of the Committee appointed by the Society to examine and report on the condition of the brain :—

'*Left side of Brain.*—There was a particularly limited softening of the posterior fourth of the third frontal convolution, and softening over the posterior part of the second frontal convolution, corresponding to the thin superficial extravasation above mentioned. On making an incision through the posterior third of the third frontal convolution, the softening was found to extend deeply to the surface of the corpus striatum. On making another incision, more anteriorly and superiorly through the second frontal convolution, the softening was found to extend three-quarters of an inch inwards from the surface of the brain.

'*Right side of Brain.*—There was loss of substance, causing a cavity covered with the pia-mater and arachnoid membranes, and containing some *débris* of brain substance. This cavity was large enough to admit the first joint of the thumb. It was situated immediately below and involving the under part of the posterior third of the third frontal convolution, and also the hinder part of the orbital convolution. This cavity also extended deeply as far as the island of Reil, affecting the superficial portions of its convolutions.

'The pons varolii and medulla oblongata appeared healthy.

'J. Lockhart Clarke, M.D.
'J. Hughlings Jackson, M.D.
'W. B. Kesteven, F.R.C.S.'

Supplementary Microscopical Report by Mr. W. B. Kesteven.

'After hardening with chromic acid, the medullary substance of the brain is seen to be thickly studded with minute spots of degenerated tissue (miliary sclerosis). These spots remained uncoloured by carmine, and were not acted upon by iodine and sulphuric acid. Under the use of the polariscope they were seen to consist of molecular substance, and exhibited none of the characteristics of corpora amylacea. These spots are more numerous near the borders of the grey matter than in the grey matter itself, where they are sparsely scattered, as compared with the white substance of the brain. Their measurements range from $\frac{1}{500}$th to $\frac{1}{5000}$th of

an inch. The margins of the surrounding brain structure have taken the carmine dye deeply, and in some places show the connective tissue and nerve tubules.

'Besides these spots of sclerosis there are to be found in much smaller numbers minute bodies of a semi-transparent character (colloid?) homogeneous in structure, and taking the carmine dye, which the spots of sclerosis do not. At some few points these bodies could be seen detached and distinct from the brain substance.

'The cells of the grey matter of the brain present no appreciable alteration. In the medulla oblongata and spinal cord some of these have a faint pigmentary granulation.

'The softened portions of the brain consist of disintegrated nerve-tubes, cells, and blood-vessels, with some compound cells, and plates of cholesterine or phosphates. The pia-mater from the softened portions of the brain is thickly studded with granular matter, nucleated corpuscles, and amyloid bodies. The minute vessels of the brain were for the most part largely dilated, and contained blood globules. The contraction of these vessels and of the adjacent brain substance has left spaces around them containing in many parts crystals of hæmatoidin.'

Remarks.—It would be unwarrantable in me to spend any time in discussing the bearings of this interesting case on the theories of the production of the aphasic state. The case is tantalising in the respect that there was a lesion on either side of the brain, involving the third frontal convolution of each side. Considering the size of the cavity on the right side of the brain, and the fact that a little loss of prehensile power was noticed early in the case in the left hand, it would almost seem as if the right lesion were the earlier and more potential one. But it is vain to speculate on this point. But though the case does not help us to localise the function of speech on one side more than the other, it does not detract in any degree from the interest of the locality of the third frontal convolution and its neighbourhood as probably particularly concerned in the function of correct language.

Finally, it would seem that there was in this case a tendency to embolism or thrombosis, by which the blood-vessels were plugged, and the nutrition of the parts they supplied stopped. This seems to have been the cause of the softening. I should amend one statement. In my first account of the case I said the man was steady. I gather from different sources that he was, on the contrary, more or less intemperate.

XXIV.—*On Overwork and Strain of the Heart and Aorta.*

By Thomas Clifford Allbutt, M.D.

MY purpose at present, in venturing for a short time to occupy your attention, is that I may direct it towards the causation of disease of the heart and aorta, and towards one cause or kind of cause in particular, which has not, I think, received the attention which it deserves. I refer to the effects of physical exertion and strain, which I believe are more accountable for some of the increasing tales of heart diseases than we have hitherto admitted. For some years I have been in the habit of teaching that muscular effort may often act as a cause of heart disease, and in 1870 I published a paper in the Reports of St. George's Hospital, setting forth my views on this question. This paper was soon afterwards republished for me, in a separate form, by Messrs. Macmillan. This latter pamphlet brought me into communication with a number of medical men both at home and abroad, who were kind enough to take interest in the opinions there expressed. In Germany especially the pamphlet was read with attention, and a demand sprung up there for a translation of it, which is now executed, and in course of publication under the able editorship of Dr. Seitz of Zurich. Dr. Seitz has also arranged to publish, in the forthcoming numbers of the 'Archiv für Klin. Medicin,' a series of papers on the subject, which will contain some of the conclusions of German physicians.

This being so, I am now wishful, not only to bring the results of my farther experience before the Society, but also to take occasion to draw forth the opinions of those members of it whose large experience and trained observation make their opinions on such a question of especial value.

In my own essay, to which I have referred, I argued that bodily exertion had more to do with the causation of cardiac and aortic disease than was generally admitted. I found by post-mortem examination that men who had worked at heavy employments—such as bargemen, wharfingers, and other porters, strikers in the iron foundries, and the like—often present evidences of such exertion in an increased volume of the heart itself, and in marks of chronic imflammation, old or recent, in the first portions of the aorta.

These observations were made upon men who had died of acute disease or accident, and in whom no heart disease had been suspected. I also traced out the histories of a number of men of these and similar employments, who had actually broken down under diseases of the heart or aorta, and I found that both in symptoms and in pathology there was a great uniformity in these cases. I found in them hypertrophy of the ventricles, or dilatation, or both together; chronic inflammation of the aorta and aortic valves; dilatation of the aorta, or actual aneurism; incompetence of the aortic valves;—and, in later stages, loss of hypertrophic compensation, with failure of heart power, and often with establishment also of mitral regurgitation. I rarely discovered any injury or degeneration of the mitral valves as a primary event. In one instance sudden rupture of some portion of the mitral valves had followed a straining effort, but I was only able to adduce this one example from my own field of observation.* In some instances, what is commonly known as 'irritable heart' had seemed to follow active bodily exertion; but in many of them undoubtedly, and in most of them probably, the connection between these events was more apparent than real. Young men are accustomed to bodily activity, and we hope they will never cease to love bodily exercises. Young men, too, are very liable to irritable heart, but so are young women likewise, who do not indulge in gymnastics. Moreover, we often find sufficient cause for irritable heart in other directions than in over-exertion; irritable heart is almost always a neurosis, and may be due to inherited liability, or to sexual disorders, intemperance, excessive smoking, and the like. In a case of irritable heart which Dr. Anstie saw with me, I was tempted at first to seek the cause in physical exertion, as the young man had been placed under circumstances which called for such efforts. The more, however, I studied the case, the less likely did this explanation seem to be, and the more likely was it that the cardiac disorder was a manifestation of an inherited neurotic diathesis. Among his immediate relations, epilepsy, extreme nervousness, and asthma had occurred, and Dr. Anstie agreed with me in regarding the physical exertion as irrelevant.

This case I mention as a type of many others. At the same time, as I said in my published essay, overstrain of the

* Since this paper was read I have seen two clear cases of injury of the mitral valves by overstrain.—T. C. A.

heart, and overloading of its chambers, is an efficient cause of cardiac disorder of a functional kind, which generally subsides readily when rest and appropriate remedies are resorted to. The case of J. O., published in my former essay, was a good example of this state of things, and I there described likewise a disorder of the heart which came on during severe exertion in my own person.

In my own case, the over-distended ventricle recovered itself as completely as an over-distended bladder may do, but in the case of J. O., and others like it, the ventricle may, by continuance of the causes, or by the intensity of its first application, end in obstinate and even in permanent injury. Dr. Reginald Thompson has recorded such cases in 'St. George's Hospital Reports' for 1870. We see the same at times in cases of over-distension of the bladder. Actual hypertrophy, which is seen almost entirely in the left ventricle, is, I believe, nearly always due to increased resistance in the systemic arteries. Dr. Moxon has suggested to me that it is due to incomplete emptying of the chamber at each contraction. To this point I shall briefly return, but I may say at present that our views are not only consistent, but probably identical, or nearly so. In the next place, the increased force of the heart contractions, by stretching the coats of the aorta, tends to set up chronic inflammation of the aorta in the parts of it which are chiefly exposed to the initial velocity.

In this way it happens that few men who have led lives of hard physical work have not small patches of so-called atheroma in the first part of the aorta. In others, less fortunate, this mischief is more extensive, and the artery gives way either in part, giving rise to sacculated aneurism, or altogether, in the way of general dilatation. This condition is attended with severe neuralgic dyspnœa.

The establishment of sacculated aneurism may occur as the immediate consequence of a single violent effort which splits the inner coat of the vessel; cases of this kind are recorded in my essay, and elsewhere by Dr. Moxon and others. This sudden event we often see in superficial aneurisms, such as those of the popliteal artery. In like manner, the aortic valve or valves may be driven down by one sudden effort, which gives rise to a permanent regurgitation, cases of which have been recorded by Dr. Hyde Salter and many others besides myself. More commonly, however, in the aortic valves, as in the aorta itself, a prolonged strain is the cause,

a strain which slowly injures the valves, gradually forcing them asunder and establishing regurgitation.

Dr. Hilton Fagge has very kindly communicated to me the results of a search made by him into the post-mortem records of Guy's Hospital, which brought out the curious fact, that disease of the aortic valves, *with rheumatic history*, is very much less common in women than in men, although acute inflammation of these valves occurs in the course of rheumatic fever with equal frequency in the two sexes. The numbers in five years are as twenty-three to six. Dr. H. F. adds: 'I can hardly doubt that this is due to the cause which produces the aortic regurgitant disease associated with chronic arteritis in men so commonly, and in women scarcely ever—I mean the strain to which the aorta and its valves are so often subject in the male sex.

In estimating the ultimate results of aortic regurgitation, I have to account for the disappearance of the compensatory hypertrophy. We may naturally suppose that an artificial readjustment of this kind cannot be permanent; but, nevertheless, its gradual failure must lie in some discoverable changes. That this is due to a failure in the nutrition of the heart's fibres seemed to be the chief result I obtained from most or all of my post-mortem examinations; though no doubt an extension of the primary mischief, partly by the additional injury done by a hypertrophied ventricle to an already suffering aorta, and partly by the universal tendency of all degenerating parts to further retrogression, must go for much. I nearly always found, however, fibroid or fatty degeneration in these overgrown left ventricles, and in cases where mitral regurgitation had come on at last, the cause of this was to be seen in fatty degeneration of the columnæ carneæ, as Dr. Bristowe has shown, as well as in relaxation of the orifice. The degeneration of the muscular fibre in the ventricles I accounted for, and would still account for by failure of the coronary circulation, which is due in varying measure to loss of aortic resiliency, and to the passage of blood back into the ventricle which should, in part, at least, have been forced to run aside into the coronary arteries.* Having thus passed briefly over the main conclusions at which I have arrived in this manner, I will venture now to read a few cases illustrative of the sort

* I may add that I have notes of two cases in which simple dilatation with degeneration of heart muscle has occurred in the middle life of men who had laboured heavily for many years.

of mischief which commonly follows heavy labour; and I will then add a few words upon the kind of exertion which seems most commonly to be followed by disease on the left side of the heart.

I may say that none of the following cases have been previously published. The notes which I shall read at present are of course very much abbreviated, being, in fact, little more than the heads of each case:—

Case I.

Mr. J. C., carrier, æt. 36, patient of Mr. Lambert, of Farsley. Health always good till eighteen months ago. Then began to suffer from pains in chest of a spasmodic kind, which occurred at least once a week. These then became more frequent and severe. As his work required much heavy lifting he was obliged to give it up. Twelve months ago, after lifting a very great weight, he spat blood. Says that he is accustomed to lifting very great weights, and has been considered a very powerful man in this way. Latterly hæmoptysis has recurred and has been associated with palpitation and cough. Has attacks of dizziness in the head when walking, as though he were drunk. Dyspnœa occasional, not constant; more after meals. No anasarca. Is conscious of much arterial thumping. The attacks of pain now leave a deadness extending all down the arms to the fingers.

Physical examination.—Universal water-hammer state of arteries. Aortic regurgitation; aorta dilated; first sound free from murmur. Left ventricle dilated and hypertrophied. No albumen in urine.

Mr. C. consulted me on October 16, 1871, and I saw him again in November. Shortly afterwards he died suddenly. No post-mortem was obtained.

Case II.

Mr. J. C. O., æt. 45. Is a mechanic, and has had very heavy work; a great part of it consisted in lifting. Has also been a quick walker and a great runner; thinks in this way he has done much beyond his strength. Thinks 'he has been guilty in this respect;' health always good till seven or eight months ago. Then began to have a strange sensation in the chest on walking, especially on rising a hill. Also some dyspnœa. Has often to stop every few yards.

Has pain down left arm like stagnation of blood or as

though it had been beaten. No cough. Complains sadly of pain across the lower chest brought on by any exertion; also through the chest to the back. I find a faint prolonged murmur of aortic regurgitation. There is no evidence of hypertrophy of the left ventricle, but much dilatation. The pulse is a little shotty, but shows very little power. I warned this patient that he was in great danger of sudden death, and three months later he dropped down dead upon the steps of his office after hurrying a little thither.

Case III.

T. B., æt. 43, is a smith at an iron foundry, and is accustomed to use very heavy hammers, weighing as much, sometimes, as 28 pounds. His work in other respects is very heavy, and consists of much stooping and straining in the lifting of weights.

In December 1871 complained of a pain in his left side, but did not give up work. This pain became much worse, and to it was added what he calls 'cramp in his chest.' He was admitted into the Leeds Infirmary under my care in October 1872. He then complained of much pain in the region of the heart, round the chest, and up into the left shoulder and arm. He is a very strong, muscular man; height about 5 feet 9 inches. Complains of dyspnœa, especially on lying down. The pulse is water-hammer, and all the larger arteries beat visibly and strongly.

The heart's apex is displaced outwards and downwards, and the impulse is rather heavy. The area of dulness is extended, chiefly to the left. There is a distinct murmur of aortic regurgitation, and the first sound is rough over the aorta. The urine is normal in all respects, and there has been no œdema of the feet.

Case IV.

J. G., æt. 34, residing at Darlington, was sent to the infirmary at Leeds in the autumn of 1872, to be under my care, by Dr. Easby, of Darlington. His family history presents no detail of importance, and until the beginning of his present malady he has not suffered from any ailments. He first began to work as a labourer at the age of 10, and continued at this work until the age of 20 years. He then became a 'striker,' and followed that occupation for seven years. Since that time he has been working at a hydraulic machine, and continued this until he

finally broke down in April 1872. This machine was worked by the upward and downward action of a handle, as a pump is worked for a while, and then it was necessary to place a handspike against the chest, and thrust violently with the chest upon it. He also sometimes used the handspike as a lever, by placing it on the shoulder; he did not feel anything seriously amiss until October 1871; in April, as I have said, he was obliged to discontinue his work. He is a middle-sized, very muscular man, especially about the back and shoulders; he has now dyspnœa, palpitation, and neuralgic pain radiating through the chest and left shoulder and arm. There is evident water-hammer pulse in all the arteries, and the beat of the heart is heavy; its apex is displaced outwards and downwards; on auscultation a murmur of aortic regurgitation is heard, and also a rough systolic murmur over the aorta. The mitral valves appear to be competent, and there has been no swelling of the ankles. The urine is normal in all respects.

Case V.

A. N., æt. 37, is a stonemason, residing at Pudsey, who came as out-patient under my care in March 1872. His family and personal histories are good; he has not had any fever or rheumatism; he attributes his illness to lifting great weights, which he has been in the constant habit of doing; he is a very powerful man, and has prided himself on lifting; feels that this has injured him; began about a year ago to feel a beating of the heart, which annoyed him, and a pain in the same region. This pain extended to his left shoulder and arm; now he feels it there severely, especially in the elbow, and he says this arm is weakened. He suffers much also from dyspnœa, and the pain and dyspnœa are now brought on by the least exertion; often has dizziness in the head as though he should fall. On examination he has a universally hammering pulse, and signs of a somewhat hypertrophied and dilated heart; there is a rough sound heard with the systole over the aorta, and there is also a distinct murmur of aortic regurgitation. Mitral valves seem normal. Urine normal in all respects.

Now as to the kind of labour which tends to bring on such mischief in the heart. In the first place, such results

are rarely found in the higher classes of society, and when found, the exceptions are of that kind which prove the rule—that is, they are found to present exceptional features in other respects. Two of the five cases I report this evening were taken from private practice, and occurred in men of some wealth. In both cases, however, the patients had risen into the upper ranks of life from the position of artisans, and the main course of their lives had been one of heavy daily labour; in other cases, published in my former essay, the patients had been placed under conditions unusual in the upper classes. One had worked hard at the diggings, another had been compelled to spend his best years as a porter of heavy goods, in the service of a relation. When we have set these exceptions aside, we find that the kinds of physical exertion proper to the upper classes are less commonly followed by cardiac disease; exercises such as gymnastics, field sports, Alpine climbing, rowing and the like, seem to be wholly beneficial, and only injurious to persons of imperfect constitution.

This conclusion is one upon which I would lay great stress; it is the result of extensive enquiries, and it is one upon which we may earnestly congratulate ourselves. Nothing, in my opinion, would tend more to destroy the manliness of our countrymen than the fear of such dangers as I have described. Among boating men at both Universities, my acquaintance has been and is somewhat extensive, and for the purposes of my former essay I had the advantage, also, of the valuable opinions of my friends Drs. Paget, Humphrey, Acland and Rolleston. They all, with one consent, denied that ill results were found to follow the practice of any athletic sports at the University. This coincided with my own opinion at that time, and coincides with it still. Dr. Morgan, of Manchester, has lately made a more minute enquiry into the after lives of boating men, with results which strongly fortify my position. Again, as regards the finest sport known to man—namely, Alpine climbing—some little personal experience, a large acquaintance with Alpine men, both travellers and guides, and full enquiries made during many summers among the native guides and chamois hunters, have led me to believe that permanent heart mischief is very rare as a direct consequence of their exertions. This class of men suffer much in many ways; they are often ill housed, and much exposed to weather; hence they are very subject to rheumatism; they are also too often intem-

perate, and thus their lives seem to have a somewhat short average duration. I cannot ascertain, however, that their mountain climbing has any share in this. A letter published in the 'Lancet' a few weeks ago by Mr. Winckworth, in which he described serious heart diseases as resulting from mountain athletics in the lake country, led me to extend my enquiries in that direction also. Mr. Winckworth frankly told me that he was but a few hours in the neighbourhood, and made no adequate investigation of the subject. On the other hand, several of my friends who dwell in that country have assured me that they have not observed any such sequence. Mr. Harrison, of Ambleside, again, has given me very valuable professional testimony in this matter, and I must thank Mr. Harrison very sincerely for the thorough manner in which he followed out the enquiries which I, as a perfect stranger to him, had taken the liberty to put before him. Mr. Harrison assures me that the winners in the athletic matches of Westmoreland and Cumberland do not suffer from any consequent cardiac disorders; many of the winners are under his own eye as their medical man, and few of them are not known to him in some way. Greenup, one of the winners of the Silver How race, an especially severe test, had been warned about his heart by Mr. Harrison—not because he had injured it by effort, but because he had suffered from rheumatic endocarditis. In 1872—the year referred to by Mr. Winckworth—Mr. Harrison saw all the men in the dressing tent after the race, and found them none the worse for it. Birkett indeed, who was the third man in 1872, and the winner of the year before, made a match on the spot for a like race in the week after; Birkett's brother, the winner of 1870, was present on this occasion, and took part in wrestling and leaping as a thoroughly sound man.

I hope Mr. Harrison will publish a complete survey of the condition of these men—present and past—in the 'Lancet,' which I understand from him to be his intention.

I must hasten on, however, and not dwell longer on a subject which appears to me to be of extreme importance. How is it, then, that physical exertion which seems harmless to amateurs, is so injurious to labourers and artisans. At the time when I wrote my former essay, I believed the difference to lie in the better nutrition of the one class. This, however, I now think is but one reason among others. Certainly the lower grade of labourers suffer more than the

higher, for highly-paid smiths seem to suffer less than ill-paid labourers, such as bargemen and wharfingers.

Intemperance is probably as common among the former as among the latter, or more so; but bad housing and bad food must go for something. But Alpine guides and Cumberland athletes do not necessarily belong to the well-fed classes, and I am disposed to think that the kind and measure of work is the chief condition which governs the consequences I refer to. To turn, first, to the measure of the work done: one great feature which distinguishes athletic sports from heavy day labour is, that it is intermittent. A man in training may 'train off' as easily as he can 'train on,' and such men are awake to the necessity of giving themselves rest in proportion to their exertions. Moreover, their exercise is taken under the best circumstances, as to time of day, meal hours, and the like. Again, in all athletes and climbers, long intervals of inaction come between the seasons of activity. Alpine guides who hunt chamois for a few weeks in winter, and scale peaks and passes in summer, pursue between these seasons the peaceful callings of wood-carving, carpentry, or agriculture. Some of them are even tailors. When, again, we turn to the list of the Alpine Club, we find that its members are, for the most part of their lives, barristers, physicians, clergymen, civil servants, bankers, engineers and so forth. So it is with boating men, and jumping men, and running men; these things are not the *εργα* but the *παρεργα* of their existence. How different is this to the toil of the day labourer! From early morning to late evening, before meals and after meals, in season and out of season, in health and out of health, his whole life is one long course of physical effort. Swinging a hammer of 28 pounds weight, working the pumping-bar of a hydraulic engine, striving with heavy bales of goods, often in ill-health, often weary and out of spirits, day by day without relief—this is labour that tells. And herein I have hinted at another difference between common labour and athletic sports.* There is more difference than we readily imagine between monotonous toil, and the varied and often inspiriting efforts which engage the boating man, or the Alpine man. We all know the dulness of the familiar mile, and the very weariness of the mile in dismal or lonely places; so likewise monotonous

* As manual labour is hardest during youth, I have not anything definite to say about any protective conditions belonging to youthful years.

and wearisome must be the daily round of hammer-work, of pumping-work, and of porterage. In running a race or in climbing a peak, the excitement calls forth the whole life and vigour of the man, and the heart warms to the cheerful call upon its energies, and if for a time its efforts be somewhat excessive, it has delicious times of repair on sunny afternoons, when the limbs find rest on the soft turf, not without the influence of the soothing pipe.

Thirdly, as regards the kind of labour. My own observations lead me to think that the kind of labour which is most likely to injure the heart and aorta, is that which, by straining all the muscles, or by confining the chest, or by both means, prevents the free flow of blood through the two circulations. Continual lifting is perhaps the worst of all. The chest is fixed, and every muscle in the body is on the strain; the heart has thus to contend not only against the unusual effort, but against a heightened blood pressure—against a blood pressure which is perhaps enormously heightened. Bargemen upon the canals in Yorkshire spend much time in punting along, that is, in urging their boats along by thrusting at a pole which is fixed upon the chest, a proceeding which must prevent expansion of the chest. My colleague, Dr. Chadwick, tells me he has known this work to be very injurious to the heart. In like manner, heavy drill has been found, as Mr. Myers and others have shown, to be very injurious to soldiers who are confined by tight dress upon their chest, throat, and armpits, so that expansion is hardly possible; while the same drill is harmless to men more rationally clad, and whose chests and systemic blood-vessels are in free play. In such work as this, the heart either does not empty itself, or does so only under a pressure which must be injurious to a certain percentage of persons. What this percentage may be I can scarcely tell.

Cases of such mischievous consequences as I have described are very common in hospitals like ours in Leeds, and in other centres of a heavily labouring population. Yet when we consider the enormous numbers of people placed under some of the conditions I have described, we may believe with thankfulness that the percentage of the whole which presents any subsequent injury must be small.

Before I conclude this paper, already so long, I must allude briefly to another kind of mechanical injury to the heart which presents many points of interest.

Since the publication of my first researches into mechanical injuries of the heart, two cases at least have come under my notice in which I was led to suspect that inflammation of the endocardium had followed blows upon the chest. Both these cases presented the symptoms of mitral contraction; one of them was under my care at the Leeds Infirmary, the other was sent to me by Dr. Dunlop, of Bradford. The first case was more easy of diagnosis than the second, and left, indeed, little room for doubt. The patient was a lad about 14 years of age, who received a violent blow—a kick, I believe—over the cardiac region. He became very faint and sick, and ever afterwards suffered from pain and oppression in this region. These symptoms gradually grew worse, and were of about eighteen months' standing when he was admitted into hospital. There were no external marks of injury. The case presented all the usual signs and symptoms of mitral contraction, including pre-systolic murmur and thrill. He remained with us a few days, and we then lost sight of him.

In the second case, the patient of Dr. Dunlop, Mr. M., æt. 16, had been violently struck by a cricket-ball over the cardiac region a year before my seeing him. He was 'stunned' at the time (on cross-questioning, this seems to have been prolonged syncope), but afterwards seemed to recover.

I saw him in November 1872, when for some weeks he had complained of pain over the cardiac region. He thought this might be due to desk-work, but it was not relieved by rest or change.

On examination I found the apex of the heart displaced outwards and downwards; it beat one intercostal space lower than and just outside the mammary line. There was slight extension of dulness towards the middle line of the sternum. No epigastric pulsation. Over the region of the heart was felt that peculiar thrill so characteristic of mitral contraction, and there was in his face a look of oppression and slight dyspnœa. I could not distinguish any murmur, but the first sound of the heart seemed to be prolonged and labouring. Dr. Dunlop, however, in his letter to me says:—'There was a murmur heard in the heart's beat at a spot about two inches nearer the middle line of the body, and from one to two inches higher than the apex. Its area was very limited. The sound was not constant, but missed once or twice every ten or twelve beats.' The absence of a

murmur when I examined the lad, and its intermittence when heard by Dr. Dunlop, are characteristic of the murmur of mitral contraction. Dr. Dunlop adds, in a postscript, that the murmur was clearly endocardial, but that he was doubtful about its actual meaning. In this case, then, probably, and in the former case almost certainly, an external blow set up endocarditis, which terminated in gradual contraction of the mitral orifice. A few days ago I saw, with Mr. Aston, of Eccleshill, a lad in whom valvular incompetence had followed a severe fright. There was no room for any doubt as to the facts, as Mr. Aston had seen the boy from the outset; whether, however, the valvular mischief was due to direct strain or to endocarditis not so caused is doubtful.

XXV.—*Suppuration of the Elbow-joint: Puncture: Recovery.* By Mr. Mac Cormac. *Read March* 14, 1873.

ALFRED K., æt. 16, a rather delicate-looking boy, presented himself amongst my out-patients, at St. Thomas's Hospital, on January 17. In May 1872 he was a patient in St. George's Hospital for an abscess in the upper part of the thigh; and for the last fourteen or fifteen months he had suffered from periodical attacks of pain and swelling in the right elbow. The joint swelled, became very painful, and then after three or four days the symptoms would subside, and the use of the joint be restored. The patient believed that in the first instance he had sustained a severe wrench of the elbow. When I first saw him the elbow was much swollen, in the manner characteristic of effusion within the joint; the skin over it was red and very tense; distinct fluctuation and pitting of the skin could be obtained on pressure. The boy was suffering intense pain, which made him cry aloud at the very thought of an examination of the joint. His countenance bore a worn and anxious expression. His tongue was coated, and his pulse very frequent. The swelling and pain had commenced on the Monday previous, January 13, without assignable cause; and the boy stated that he got no sleep or rest, not even taking off his clothes from that time till he came to the hospital. All the symptoms pointing to acute suppuration within the joint, I

accordingly punctured it with the fine cannula trocar of an aspirating syringe, and drew off between three and four ounces of pus mingled with some flakes of lymph and altered synovia. The puncture was made opposite the line of articulation, and midway between the olecranon and external condyle. The boy was then sent to bed, and his arm placed on a well-padded rectangular splint. The relief afforded by the puncture was immediate and permanent. The puncture healed at once, and it can only now be detected by a faint stain at the place where the needle was inserted. He remained in hospital rather less than four weeks, during which time the improvement was continuous. His arm was, however, kept on the splint for six weeks. At the end of four weeks there had not been the slightest return of pain, the swelling of the parts around the joint had gradually disappeared, and he was able to move the joint without even feeling uneasiness. On February 28 the splint was removed. There still remained slight thickening of the lower end of the humerus, and also over the back of the olecranon. The boy could not fully extend the arm, but with this exception the movements of the joint were absolutely perfect. His strength and health had otherwise greatly improved. In presenting the lad for the inspection of the members, I may say that, though the result of one case must be taken *quantum valeat*, I cannot but regard it as furnishing much encouragement for the use of similar means on other occasions. The history of a case of suppurating joint seldom furnishes so satisfactory a conclusion.

Since bringing this patient before the Society, I have several times seen the lad. The affected elbow-joint is in all respects as good as the other one, and the cure appears likely to remain permanent and complete.

XXVI.—*Clonic Spasmodic Contraction of the Muscles of the Neck, possibly having its origin in some affection of the contents of the Spinal Canal.* By Dr. JOHN OGLE. *Read March* 14, 1873.

THE patient submitted to the notice of the Society, G. T., æt. 50, was a copper and tin-plate worker, and was admitted under my care in January last, as an in-patient at

St. George's Hospital. He was a well-made and muscular man, and apparently in good general health, but was the subject of clonic and chorea-like spasm of the muscles of the neck, which occurred from time to time, by which the head was jerked somewhat backwards, and to the left side, the chin being twisted towards the left shoulder, and the right ear drawn down towards the right shoulder. Sometimes this twisting of the head was slow and gradual, but for the most part it consisted in rapid movements, and had to be controlled by the hand of the patient. Occasionally, there was slight elevation of the left shoulder. The patient had rather a peculiar countenance, which appeared to be owing to a tendency to frown, and to an unusual fixity and smallness of both the pupils. It was also noticed that the muscular furrows of the left side of the face were more marked than those on the opposite side. There was, however, no indication of spasm or want of power or equilibrium in any of the muscles of the face, or eyes, or tongue, or palate. The patient complained of weakness of the limbs generally, but there was no positive deficiency of power in any of the muscles of the limbs. There was, however, complaint of constant numbness, and formication of the ends of the fingers of both hands, the skin of which, for about an inch or more from the tips, had, according to the patient, frequently peeled off; and was, on admission, unusually smooth, glazed and shiny, and insensible to touch, and wrinkled in places; the nails being in some parts furrowed. The patient had observed that the nails of the fingers grew very quickly. He also complained of odd sensations and numbness about the toes, which felt as if tied together (as if he were web-toed). Headache was also experienced; but the appetite and secretions appeared to be natural. On watching the case, it proved that the degree and intensity of the spasm of the cervical muscles were very variable, often increased when the patient was addressed, and under examination, but not always so; and always much worse after waking in the morning, and during the early part of the day, subsiding towards the evening, and being absent during sleep. Frequently, and when severe, the spasms were accompanied by much pain, and often the patient could not remain out of bed owing to the distress which they occasioned. On examination of the muscles of the neck, there was found slight increase in the thickness of the right sterno-cleido and

trapezius muscles. There was no tenderness or enlargement of tissues about the cervical vertebræ.

On inquiry into the history of the case, it appeared that the present attack had existed several months, and that the patient had, during that time, been under the care of Dr. George Johnson and Mr. Wood, at King's College Hospital; also that, thirteen or fourteen years previously, he had been in St. George's Hospital, under Mr. H. C. Johnson's care, for several months, owing to similar violent spasmodic contraction of the neck-muscles; but on that occasion the head and face were dragged down towards the opposite (the right) side, and not to the left, as on the present occasion. The former attack followed a fall and pitch on the head, by which the top of the head was injured; it lasted about nine months, and had no connection with cold, or rheumatism, or syphilis. The patient's recovery followed the use of blistering, salivation, and subsequently of galvanism.

Since his recent admission into the hospital he has been treated by the valerianate of zinc in increasing doses, and by frequent subcutaneous injections, at night, of morphia, with and without atropine, which have frequently, but not always, been attended by decided mitigation of the spasm, and given good nights, after which, the next day, he always was better.* The pain in the head had been greatly diminished by blistering the nape of the neck. The various viscera appeared to be quite healthy.

Bearing in mind that in some cases of spasm of the muscles of the neck, division of the sterno-mastoïd, and even of the spinal accessory nerve, had been not only recommended but performed, I have suggested to my surgical colleague at St. George's Hospital, Mr. H. Lee, that in case of treatment not availing materially, it might be advisable in the present case to have recourse to some such operation.†

* Interesting illustrations of the effect of atropine injections in wry-neck are given by Dr. Da Costa at p. 392 of the 'Pennsylvania Hospital Reports' for 1868.

† I do not profess to give anything like an historical sketch of the operation of dividing the spinal accessory nerve, or the muscles supplied by it, for spasm. It is described in many works on Surgery and on Deformities. The members of the Society may remember that Mr. C. de Morgan described a case of spasmodic wry-neck in the 'Br. and For. Med. Chir. Review' for July 1866, p. 218, in which he had excised a part of the spinal accessory nerve. Mr. John Wood informs me that he has twice divided the spinal accessory nerve at King's College Hospital. One was in the case of a man, and the other in an obstinate case of wry-neck in a girl. The former improved, and the latter was cured by the operation, combined with a stiff collar. He says he saw the latter case three or four years after she was in the hospital, grown up to be a young woman, and quite straight as to the neck. Mr. Wood believes this case was published in the

As some question had arisen as to whether or not the man was malingering, I may say that he has been watched, both at St. George's and King's College Hospitals, and observation

'Medical Times and Gazette' (but could not remember the date), among the hospital reports of operations.

Dr. Marshall Hall, in his 'Principles of Medicine,' when considering torticollis as an affection (like spasmodic strabismus, and spasmodic tic) of the true motor nerves, observes, 'It may be a question whether the branches of the accessory nerves going to the muscle might be divided.' Again, at p. 349 of his 'Diseases and Derangements of the Nervous System,' he alludes to and recommends the division of the sterno-cleido mastoïd muscles in spasmodic torticollis. He then quotes a remarkable case which had been communicated by Mr. (afterwards Sir) Arnold Knight to Sir C. Bell, of a boy who had torticollis, that began with a stiff neck which came on during the night, and whose playfellows had rudely twisted his head in various directions. At p. 350 (*loc. cit.*), after alluding to the successful divisions of the muscles in the strabismus, he says, 'the same result has been accomplished in spasmodic torticollis.'

Romberg, in his chapter on Spasm in the muscular distribution of the nervus accessorius Willisii, &c. (*see* 'Manual of Diseases of the Nervous System,' vol. i. p. 316, Syden. Ed.), alludes to the division of the branches of the accessory nerves as attempted by Dr. Bujalsky, of St. Petersburg, and reported by Stromeyer, but, on the whole, is himself adverse to the operation, as, 'independent of the great difficulty of the operation in the living subject, besides the accessory nerve, branches of the cervical nerves are distributed to the sterno-cleido mastoïd, the affection of which would be liable to predominates.' He observes, however: 'A happier result is likely to attend the division of the affected muscle, which has been executed by Stromeyer and Amussat with permanent results, though even here at times obstacles present themselves to the recovery. Thus, I have met with one patient who was affected with this spasm in an intense degree, and in whom the repeated division of the sterno-cleido mastoïd by Professor Dieffenbach was utterly ineffectual.'

I may here briefly refer to one or two writers who have given special attention to the division of nerve or cervical muscles for relief of spasm. Thus, Mr. Kirby, in 1819, in his 'Cases, with observations, on Wry-neck &c.,' gives cases showing the utility of this operation as well in cases in which the spasm was congenital as in those in which it resulted from injury. Writing at that time, the author observes that for the previous seventeen years the operation for wry-neck had not been performed in Dublin nor in England. He alludes to Sir C. Bell's experience of its use. He refers to observations on its use by Mr. G. Sharp, in his 'Operations in Surgery,' chap. xxv. p. 201, and to those of Heister; and to the histories of cases in which it was used by Meekren, Florian Tulpius, &c.; also to the remarks by Barclay, in his work on 'Muscular Motion,' who was adverse to the operation. He alludes to cases in which the spasm is more temporary than in properly so-called 'wry-neck,' and capable of being relieved by purgatives. Guérin, in 1838, read a memoir on a 'New Method of Treatment of Torticollis,' at the Académie Royale des Sciences, in which subcutaneous section of the sterno-mastoïd muscle was described and recommended. To a reprint of this was added a mass of correspondence regarding the operation, and much polemical matter as regards priority of its recommendation. I would also allude to Dr. Phillips's work on Subcutaneous Tenotomy (Paris 1841), in which its application in torticollis was described, and references made to Dieffenbach's subcutaneous section in torticollis prior to 1834, and the history of operations for the affection given, from Ronhuysen's time (1670) downwards: Dupuytren, Amussat, Bouvier, Stromeyer, &c. Mr. Holmes Coote, in his work on 'Joint Diseases,' 1867, p. 202, has some observations on wry-neck and division of the sterno-mastoïd which he had performed. Mr. Tuson also, in his work on 'Spinal Debility' &c., 1861, p. 100, has observations on the same, and quotes from Mr. S. Cooper as to division of the muscle.

was adverse to this supposition. Mr. Lever, surgeon, of Gravesend, under whose care the patient has recently been, and by whom he was treated by blistering, zinc, and iron, &c., without any benefit, informs me that he had considered this question; but, reflecting on the small amount of his Lodge pay, and what he might earn if in his usual work, he did not conclude that he was malingering.

I am anxious to have the opinion of the Society as regards the desirability of having such an operation as the one above mentioned performed; and also as to the pathology of the case—whether there be some ill-defined and chronic affection of the spinal membranes or nerves, or of the nervous centre in the spinal canal, or not. For myself, I cannot help thinking that the spasm, the condition of the pupils, the state of the extremities, taken in connection with the apparent original cause of the affection, point to the conclusion which I have suggested. The interval of immunity subsequent to the first attack renders the case, however, a somewhat perplexing one.

P.S.—Subsequent to the exhibition of the case to the Society I communicated with Mr. Wood and Dr. Johnson, under whose care the patient had been at King's College. Mr. Wood told me that he had been admitted under his care as suffering from 'wry-neck,' the head being inclined to the left side. The sterno-cleido mastoïd muscle at that time was not rigid, nor were the opposite muscles small or paralysed. Pain in the head was occasioned by the twitchings. There was no pain in the cervical region. He was galvanised, and gentian and valerianate of zinc was given; but as the neck became worse, the galvanism was soon left off. Mr. Wood, in a letter dated March 22, observes: 'This case was carefully watched for any signs of malingering, both by the surgeons, dressers, and nurses, and the opinion was arrived at that the case was a genuine one, and the symptoms not feigned.' He was of opinion that the spasm affected the small oblique and recti rotator muscles more constantly than the sterno-cleido mastoïd and trapezius, which were only occasionally affected when the spasms were extreme. Galvanism seemed to increase the spasms; aperients and tonics to diminish it. Sedatives, as the chloral hydrate and bromide of potassium, gave only temporary relief, by promoting sleep, which was often interrupted by a sudden accession of the spasms while the head lay upon the pillow. He was admitted into the hospital for the double purpose of being watched

and of applying galvanism. He was discharged 'relieved,' after being a few weeks in the hospital. Mr. Wood observed in a note to me: 'My diagnosis was injury, and probably subsequent thickening, of the spinal dura mater or pia mater about the foramen magnum on the right side, implicating the sympathetic on the vertebral artery, and so affecting the pupils. The man came to me as out-patient for a long time, both before and after his admission into and discharge from the hospital; and, if my memory serves me faithfully, he underwent a full and prolonged course of iodide and bromide of potassium without permanent benefit.' Afterwards he became a patient of Dr. Johnson, who informs me that he also gave him bromide of potassium in 20-grain doses, and for a time he seemed better; but the spasm soon returned, and he went out of the hospital unchanged.' The above facts I elicited after I had shown the patient to the Society, and was particularly pleased to learn how much like my own opinion of the case had been that taken by Mr. Wood.

To pursue the case, I continued to use the galvanism and the subcutaneous injection of morphia, with occasional blistering to the nape of the neck, by which headache was relieved; and Mr. Lee agreed to consider the operation of dividing the sterno-cleido mastoïd muscle. In the meantime, but gently, we salivated the patient with mercury, bearing in mind the successful treatment which was pursued during his first stay in the hospital. Knowing Mr. Campbell de Morgan's interest in torticollis, I invited him also to see the patient, who at the time thought himself improving, and he told me that if the improvement should prove to be only a temporary one, and the man continue to be incapacitated for work, he would certainly advise the division of the spinal accessory nerve. As no positive improvement followed, Mr. Lee operated. I subjoin some remarks which Mr. Lee has been so good as to send me referring to the case and his operation. He observes: 'You will recollect that when your patient was transferred to me the twitching motions produced by the contraction of the muscles of the neck were sometimes of a peculiar character. The head would be moved first downward, and then by a kind of circular sweep to the left side. During this motion there was marked rigidity of the sterno-mastoïd and trapezius muscles. In thinking over the case, it appeared to me that the only part of those muscles which could contribute to that motion was the sternal portion of the sterno-mastoïd. Accordingly the operation which I performed

was a subcutaneous division of the sternal attachment of that muscle. The wound in the skin healed entirely by first intention. For some days afterwards the spasmodic action of the muscles had diminished to a marked degree, and when it did recur there was not the downward motion of the head that had formerly been observed—the head was simply rotated to the left side. After the lapse of some days, the spasmodic action appeared more frequently, but with this peculiarity: that the head began to move first, and then the sterno-mastoïd and trapezius muscles were spasmodically contracted. By repeated observations I assured myself that this was the fact, and I therefore concluded that their action was a kind of involuntary attempt to prevent the head moving.

'The sternal portion of the sterno-mastoïd was completely divided, and for many day afterwards did not, as far as could be ascertained by the touch, participate in any spasmodic action of that muscle. As, however, the rotatory action occasionally continued, I concluded that it depended upon the action of some other muscle—probably the obliquus inferior of the opposite, or left side. This opinion appeared to derive support from the fact that the orbicularis of the left eye was also occasionally spasmodically affected.'

For a week or two after the operation the head was but very slightly drawn over to the shoulder: but the patient left the hospital eventually very much in the same state as when he entered it.

It so happens that shortly after I exhibited the above case to the Society, another one of a similar kind, only involving as well the muscles of the right shoulder and arm, so that the latter is drawn right across the chest when under the influence of spasm, came under my care in St. George's Hospital. In the latter case pericarditis, slight pneumonia, and rheumatic symptoms came on, and during their presence the spasm of the neck and shoulder muscles abated greatly. I hope to place this case also on record.

XXVII.—*Case of Foreign Body impacted in Right Bronchus.* By Richard Barwell. *Read March* 14, 1873.

Edmund M., æt. 17, shoeblack, was admitted into Charing Cross Hospital, November 20, 1872, under the care of Mr. Barwell.

History.—He stated to Dr. Vivian Poore, under whose notice he first came, that ten days previously he was amusing a baby with a Punch's squeaker, when he inadvertently took a deep breath and felt the 'instrument sucked into his throat and lodge at the apple.' He felt as though he were going to be suffocated, gasped for breath, fell on the floor, tried in vain to call out, became blue in the face and convulsed, and seems to have lost consciousness. A timely 'punching between the shoulders' caused him to gasp more violently; he came to his senses, and at the same time felt the squeaker pass down behind the sternum towards the lower part. He never since has been free of a dull sense of weight in this spot (the place he points to is about midway between the nipple and the edge of the sternum). Last evening (19th), running over Westminster Bridge, he felt the body 'suddenly jump up to the pit of his neck;' he gasped for breath, but was not so bad as at the first impaction; in a second or two the whistle seemed to slip back into the same spot. There has been no other paroxsym of dyspnœa since the last attack, but ever since the occurrence related above there has been shortness of breath, cough, severe enough to keep him awake at night, with yellow expectoration occasionally tinged with blood, and he never has been free of the dull, heavy pain.

Dr. Poore has been good enough to give me the following account of the patient's condition:—

'November 20.—In the out-patients' room. The patient was harassed by a continuous, slight hacking cough. When asked to point to the painful spot, he put his finger about half an inch to the right of the border of the sternum on a level with the lower border of the second rib. On auscultation bronchitic *râles* were heard in this region, but nowhere else. The percussion sounds over all the chest were perfectly normal.'

Dr. Poore at once sent this patient under my care. I simply ordered him to be carefully watched. In a day or two the cough became worse, bronchitis well marked with mucopurulent sputum, and I determined at once to try eversion and succussion, and, if necessary, to perform bronchotomy. Accordingly, on the 23rd, the lad was laid upon his back on an operating-table, with a top that could be elevated, and he was so tied as to admit of facile eversion. At this time Dr. Poore states that bronchitic *râles* were audible over the whole upper chest in front, ceasing on a level with the third rib; these sounds had a maximum intensity at the spot

where they were first observed; also on the left side there were similar but slighter *râles.*

At a given signal the patient was everted and the chest struck occasionally with the open hand. No cough or spasm came on, but after a time, when congestion of the face was strongly marked, he was replaced horizontally; this was repeated and the chest examined: no change; a second repetition, rather longer and with more potent succussion, was tried, and then on examination the chief bronchitic sound shifted to a little above the centre of the manubrium sterni.

I now determined to open the trachea, somewhat against the wishes of the physicians present; but, with the assent of my senior colleague, I made in the skin and fascia, just above the sternum, an opening just large enough to admit the tip of the forefinger. With the nail, and handle of scalpel, and very slight use of the blade, I separated the deeper parts, and, when the slight bleeding had somewhat subsided, opened the trachea to the same extent as the skin. Somewhat violent cough was produced by the irritation and the flow into the windpipe of a little blood, and it continued some few seconds before the forceps were introduced. With the closed blades of the trachea forceps I explored the right and left bronchus, also the trachea and larynx, but found no foreign body. With the hope of moving this, eversion was again resorted to: nothing could be detected; therefore I closed the wound, entirely preventing entrance of air. At this time, according to Dr. Poore, 'the bronchitic *râles* had entirely ceased, excepting at a spot at the upper edge of the second right costa-sternal articulation.'

The lad was sent to bed; during thirty hours he had pain in swallowing, which kept him awake during the first night; after that time he lost all pain or fever. Slept well on the second night, that of the 24th. On the 25th I allowed him to get up.

27.—Dr. Poore examined his chest with great care, as afterwards did Dr. Pollock and Dr. Silver. There was no abnormal sound to be detected.

On December 3, to which date he was kept only to fulfil certain hospital regulations, the lad was discharged.

A subsequent search for this patient enabled me to submit him to Dr. Poore's examination on January 29. No morbid sound whatever could be detected, and the boy declared himself to be perfectly well.

This case bears certain peculiarities.

1st. The very slight symptoms produced by the foreign body.

2nd. That in spite of those slight symptoms operation was performed.

3rd. The perfect relief afforded, although no foreign body was either extracted or visibly expelled.

The first point—the slightness of the symptoms—is, I believe, to be thus accounted for: —The body is constructed of two pieces of tin, about 1 inch long by ⅛ broad, bound together with tape, a length of which, serving as a tongue, is placed between the metals; and it will be seen that there is only one position it could assume in a bronchus, namely, impacted longitudinally in the tube, with the ends presented to the inspiratory and expiratory air, thus offering the very slightest resistance to either current. Hence we could not expect to find, what is generally detected when such a thing as a bean, pebble, or fruit-stone is impacted in a bronchus—either a portion of lung yielding no respiratory murmurs, yet perfectly resonant to percussion, or certain strident sibilations so entirely at variance with nature as to at once suggest the name 'foreign.'

Yet, in spite of the slightness of these symptoms, I not only deemed it right to operate, but that to omit operation would be decidedly unjustifiable. I presume, indeed, that in the present state of our knowledge every surgeon would have been prepared to operate on the advent of any more urgent symptoms; but I did not think it well to await these, and for the following reasons:—If a body be impacted in the larynx or trachea, urgent symptoms will mean merely an increased irritability and spasm of the glottis; on removal of the foreign body these will naturally cease, but if the body be in the bronchus and does not move, urgent symptoms will mean the establishment of serious disease in the lung, which will *not* cease when the body has been removed: it *may* be recovered, but in many cases lung disease thus established has killed the patient even after the expulsion or removal of the inhaled substance.

This view is borne out by statistics. In an article on Foreign Bodies in the Air Passages, in the 'New System of Surgery,' Mr. Durham enumerates 544 cases in all.

Of those operated on, 24 . . .	8% died.
Of those not operated on, 57 . .	5% „

But this table gives too little specification—only the mere

per cental result of letting alone or operating. The cases to be gathered from Dr. Gross may be arranged in a manner that will give us a fairer and clearer insight into the sequence of events.

I find in his excellent work (Gross on 'Foreign Bodies in the Air Passages,' Philadel.), histories of 68 cases of tracheotomy. Of these, 60 recovered; 8 died.

Even of the 8 fatal cases thus recorded, 5 died from the effects not of the operation, but of delay; from the effects of long retention of the intruder in the air passages.

There are also histories of 88 cases not operated on. Of these, 39 died; 49 recovered.

But this must be carefully noted, that of the 49 who recovered 4 coughed up the body within a week. Of the 45 who retained the substance more than a week 5 suffered but little, and of these 5 the trachea only was invaded in 3. Thus, there are 42 with the intruder in the bronchus for more than a week, and 40 of them are noted as suffering from hæmoptysis, abscess, symptoms of phthisis, emaciation, marasmus, or other distressing conditions.

Added to these considerations I would wish to mention my experience of tracheotomy. The mere opening of the air tube does no harm whatever. Patients may die of the previous disease—croup, diphtheria, the exhaustion of a scald in the throat; indeed, children die of obstruction in the lung, produced by drainage into it from the trachea of thick mucus evoked by the irritation of the tracheotomy tube—but never of the mere opening itself. Nor have I, in the many operations that I have performed, ever met with alarming accidents; indeed, I find tracheotomy, where the anatomy is normal, very much more simple and less fraught with those rocks and quicksands of surgery which books would have us believe; but as my method is somewhat different to that usually adopted, I will ask leave shortly to bring in the patient, that the scar may be seen, and, if any member think desirable, his lungs examined.

When, after the eversion and succussion of the patient, the foreign body moved from its position about three inches down the right bronchus, I determined to operate. In this I was guided by some former experience of such cases, as well as by consideration concerning the shape of the substance inhaled, which was of such kind that it could only pass the glottis if it happened to rise upward in a directly antero-posterior position. Against this occurrence the

chances were multitudinous; and had this body been shaken into the larynx in any other position, there would have commenced a scene of spasm and convulsive struggling as would have rendered operation difficult until asphyxia had proceeded very far, even to a dangerous pitch. By this time, too, the veins of the lower part of the neck would have become so congested as to pour out quantities of blood. I preferred operating during tranquillity, and a more normal state of the thyroid vessels.

Although by the most careful search I could find no foreign body in the air tubes, yet the proceeding, producing as it did entire remission of all the symptoms, effected its full object. The glottis, when an opening in the trachea permits air freely to enter the lung beneath it, relaxes and opens with a readiness which does not occur under other conditions; and I have no doubt that this body was coughed up and unconsciously swallowed. It is much to be regretted that in spite of orders this lad went two or three times to the water-closet, so that he gave no opportunity of examining the stools, and when this disobedience was discovered it was in all probability too late.

It is considered by some, better to leave the tracheal wound open; but this method I did not follow, for several reasons. I have had experience of a second operation on the trachea ten days after the first one; and have found it to be so simple that it is little more than opening an abcess, and it is attended with hardly any bleeding; moreover I was anxious to avoid increasing the already severe though localised bronchitis by admitting cold air into the lung. Besides, if the body be below the opening, as in this case, it would, if coughed up, strike against the tracheotomy tube and would fall back into the bronchus. This I wished to avoid by closing the trachea, feeling sure that if symptoms of suffocation came on, the opening could be re-established in a minute or two.

I have been the more careful in bringing this case before the Society in as perfect a form as possible, and in making, I hope, not tedious comments, because it appears to me that in no surgical work are the prospects of such patients given with due emphasis; and I should wish strongly to insist upon the fact, that where we have evidence that a foreign body is in the air tube, the fear of not finding should not delay operation more than a few days. A pair of good and sufficiently long forceps will reach a long way into either

bronchus, and into the larynx; by using the instrument with a light but steady hand, especially by passing it along the front wall, and touching the back wall only as much as may be absolutely necessary for purposes of exploration, hardly any irritation is produced.

Even if one do not find the foreign body, cure will result in a certain proportion of instances, though I cannot fix that proportion. Nevertheless, I think this class of case ought to be recognised in the records of systematic and in the annals of clinical surgery, viz. Cases of Tracheotomy without finding the Intruded Body, followed by cure or death, as the case may be. In the article on Foreign Bodies in the Air Tubes, in the 'New System of Surgery,' such cases are not adverted to. Dr. Gross gives five examples. 'The operators,' he observes, 'were men of no ordinary skill and judgment' (p. 413). Each of these cases recovered. A sixth case, operated on by Liston, is reported in the 'Liverpool Medical and Chirurgical Journal' for July 1857, by Mr. Cadge, of Norwich, to whom I am indebted for the reference. The case now brought forward is the seventh on record.

I am indebted to my friend Dr. Day, of Manchester Square, for the following details of a case which is so unique that it cannot but be of great interest to this Society.

XXVIII.—*Passage of a Foreign Body through the Right Lung: Pneumonia; Abscess; Recovery.* By W. H. Day, M.D. *Taken as read May* 23, 1873.

ALTHOUGH the short case I have to bring before the notice of this Society is wanting in fulness of detail, it is sufficiently complete to prove that a foreign body may pass down the larynx into the lung, and after setting up severe local and constitutional symptoms, pass out through the walls of the chest, and, it may be, through other organs and tissues, without causing death, or any subsequent or lasting impairment of function.

E. S., æt. 1, of delicate constitution, was brought to me on September 26, 1865, with a short hacking cough and sickness, and was apparently in a good deal of pain. The child was restless and sleepless at night. I considered the ailment attributable to teething. A brisk aperient of

rhubarb and grey powder was ordered, and for a short time the child improved. At the beginning of October the cough had increased, and the child was constantly crying. On a careful examination of the chest the right lung was much duller than the left, and the breathing was deficient, hurried and tubular. A linseed poultice was applied, and one grain of grey powder and one grain of Dover's powder given three times a day. At the end of the month the child became much worse. Between the fifth and sixth ribs, near the angle on the right side, the skin was red and tender. The child appeared to be in great pain, and could not eat. A large poultice was kept continually applied. An abscess burst on November 6, and on the 11th a blade of grass between 2 and 3 inches in length made its appearance, and the mother pulled it out and brought it to me. The wound discharged copiously for some time, and gave rise to a large flabby ulcer at the external orifice, which finally healed by November 24, and normal breathing was re-established in the affected lung.

It was ascertained that shortly before the child was taken ill in September, her elder sister, a girl of 12 years old, had gone several times to a hay-field near their residence, and put the child on the grass, whilst she played with her companions. It was the ordinary ear of wide-ribbed grass, so often put by boys up their sleeves.

XXIX.—*Further Report of a Patient in whom the Left Common Carotid Artery was tied for the relief of Aneurism of the Arch of the Aorta.* By Christopher Heath. *Read March* 28, 1873.

THE patient brought before the Society for inspection was the man W. J., who formed the subject of Dr. Cockle's paper, read before the Clinical Society on April 12, 1872, and published in Vol. V. of the 'Transactions.' Since that date, when the patient was first brought before the Society, the man has continued his laborious work as an agricultural labourer, particularly exerting himself in draining. He is in perfect health, and feels no inconvenience from his chest. He sleeps well, and can lie on either side equally well. The right

chest wall in front is quite restored now to its natural shape, or, if anything, is a little flatter now than its fellow. Some slight thickening still exists about the right sterno-clavicular articulation, and the episternal notch is still filled by the remains of the old tumour.

On palpation, the heaving impulse formerly existing over the right anterior chest wall is almost entirely gone. On percussion, the right anterior chest wall, formerly so dull, has, to a considerable extent, recovered its normal condition, though towards the sternum abnormal dulness still exists.

The impulse of the heart is as heaving and forcible as it was a year ago; the subclavians and right carotid beat normally, but the left carotid cannot be felt; and the left radial pulse is slightly weaker than the right.

XXX.—*A Case of Recto-vesical Fistula in the Female, successfully treated by Colotomy.* By Christopher Heath. *Read March* 20, 1873.

CASES of communication between the bladder and the large intestine in the male subject have been recorded by several surgeons, and Mr. Curling, Mr. Bryant, Mr. Holmes, and others, have performed the operation of lumbar colotomy for relief under these circumstances with good results. I am not aware, however, of any example of colotomy in the female for recto-vesical fistula prior to my own case, and it is obvious, from the anatomical relations of the parts, that such a communication must, in the female, be extremely rare, though, possibly, not unknown.

In January 1872 I saw, with Dr. Grigg, a lady, æt. 41, who had been under that gentleman's care for some time with distressing bladder symptoms and turbid urine, in which Dr. Grigg had detected fæcal matter. She had constant pain in the bladder, with frequent micturition and occasional retention from the blocking of the urethra with fæces.

Twelve years before, this patient had had a dead child, and afterwards suffered from pelvic abscess on the left side, which was opened in the left groin, and discharged for a lengthened period. Three years after the delivery, while in Paris, the patient had sudden pain about the bladder and difficulty in

passing urine, and at last passed some sort of membrane from the bladder, since which she has never been well.

When I saw the patient she was fairly nourished. On the left side of the abdomen, within the pelvis, was a swelling, which, she said, varied in size, being apparently the cavity of the original abscess, which occasionally became distended with urine or fæces. An examination of the bladder with a sound gave no information, but much pain to the patient. *Per rectum*—nothing abnormal was to be felt. *Per vaginam*—the uterus was felt to be larger than in the normal state, and somewhat fixed. The diagnosis was that a pelvic abscess had formed a communication with the upper part of the rectum and with the bladder; and as the patient was suffering from constant pain in the bladder and difficulty of micturition, and suffered great annoyance from the constant passage of flatus by the urethra, Dr. Grigg and I recommended the operation of lumbar colotomy, and in this Mr. Erichsen, who subsequently saw the patient with us, agreed.

I performed the operation of colotomy in the left loin, on January 22, 1872, without any difficulty, having previously distended the bowel with warm water. There was some chloroform sickness afterwards, which was allayed by ice and champagne, and in the evening the patient was comfortable, and had passed perfectly clear urine with less pain than she had done for a long time previously.

January 23.—Patient was hysterical and sick during the night, but comfortable this morning. Skin cool. P. 80. The oakum dressing applied at the time of the operation was removed, and a linseed poultice applied. The wound was looking well, but no fæces had passed as yet.

25.—Patient doing well. I passed my finger into the bowel through the artificial anus, and felt a mass of solid fæces close to the opening. Injected some water, and brought away a small quantity of fæcal matter. The urine passed is clear, and contains no fæces.

26.—Several scybalous masses passed by artificial anus.

27.—Took Syrupi sennæ ʒij. this morning, which produced a copious and free evacuation by the loin. In the evening she passed a very small piece of fæcal matter by the urethra with some pain. This frightened her, and she became hysterical and had a bad night.

28.—The poultice, of which she complained, was removed, and oakum applied to receive the motion, with a circle of water-dressing around it on the wound.

February 1 (11th day).—Is perfectly comfortable. Motion passes readily and daily. All redness of the skin has disappeared. I removed all the stitches to-day, and some healthy pus welled up from the extremities of the wound. To go on the sofa.

8.—Has made uninterruptedly good progress. The ends of the incision are nearly healed, and it is dressed with zinc ointment. She has walked from the bed to the sofa.

From this time the patient's recovery was rapid, and she was soon able to go out. The artificial anus gave little or no trouble, and she had a daily evacuation by it. No fæces passed by the urethra, but as irritation about the lower part of the rectum began to be complained of some weeks after the operation, I passed an enema pipe into the lower end of the bowel at the wound, and washed out a quantity of inspissated mucus, with great relief. This process has to be repeated occasionally.

At the present time (a twelvemonth after the operation) the patient is well and about, and has no inconvenience whatever about the bladder. The artificial anus gives no inconvenience, though she is liable to attacks of diarrhœa, from which she has suffered for years. She is able to walk about and undertake active duties, and wears a simple belt around the waist.

The recovery and relief in the foregoing case was no less complete and satisfactory than in the two cases of colotomy for recto-vesical fistula in the male, brought before the Society by Mr. Bryant last year. My patient, however, does not suffer from the inconvenience of a flow of urine into the bowel, which existed in those cases, but which, so far as can be ascertained, has never occurred in the foregoing case.

XXXI.—*Acute Rheumatic Fever. Pericarditis, with much Effusion. Expected necessity for Tapping the Pericardium: Pleurisy: Recovery. Remarks on the Operation of Paracentesis Pericardii.* By JOHN W. OGLE, M.D.

[Notes indicated by capital letters introduced in the text are added at the end of the Paper.]

GEORGE J., æt. 34, a man who had lived very freely, was admitted into St. George's Hospital on Dec. 5, 1871, with acute rheumatism, which commenced fourteen days previously, but which had been much worse for five days. He had never had an acute attack of the kind before.

On admission there was a soft systolic bruit at the base of the heart, audible somewhat along the course of the aorta; and it was doubtful whether it was of exo- or endocardiac origin. The temperature was 103°, the pulse 110.

Calomel and Dover's powder, followed by the Haust. sennæ, were given, and the citrate of ammonia draught every four hours. On the following day (the 6th) there was much sickness, also great and increased action of the heart, and much pain across the chest was complained of. The pulse was 111, the respiration 46 per minute, and (at 9 A.M.) the temperature 102°. Twelve leeches were applied to the cardiac region, and 20 grs. of Bicarb. potass. added to each dose of the saline. At 9 P.M. the temperature was 102°. But little relief followed the use of the leeches, and on the next day (the 7th) decided pericardial (to and fro friction sounds) were heard at the base of the heart. Cough was troublesome, and in the morning the temperature was 102°; the pulse, however, was only 88. A mixture containing oxymel scillæ, tinct. camph. comp. and spirit æther nitr. was given from time to time in addition to other medicine. In the evening the temperature was 101° and the præcordial friction sounds were more extended.

On the 8th the temperature was 100° at 9 A.M. and the pulse 80; in the evening the temperature was 101°.

On the 9th the temperature was 100·4° in the morning. There was short, constant, harassing cough; the cardiac dulness was greatly increased and uninfluenced by change of position, and friction sounds were absent; the natural sounds of the heart were very distant. In the evening the temperature was 102°.

On the 10th the temperature night and morning was 100°; it was the same on the 11th, when the respiration was 34 per minute and very diaphragmatic and distressing, though the natural heart sounds were more distinct.* Symptoms remained the same on the 12th and 13th. (An addition of 12 grains of nitrate of potash was made to the saline draught.) On the 14th, although the general symptoms remained as before, the temperature was only 98° night and morning, and thus remained on the 15th and 16th. During these three days, however, distress, and orthopnœa, and pain, and cough had increased, whilst the rheumatic inflammation of the joints had become much diminished. On the 16th a dozen leeches were again applied to the cardiac region, and 1 grain of opium was given night and morning. The saline draught was changed for the Haust. ammoniæ acetatis, with 30 minims of the Tinct. digitalis and 10 of the Tinct. scillæ. I visited the patient at midnight and found the respiration 60 per minute; the absence of friction sound and of the natural sounds of the heart, and the largely increased area of cardiac dulness and the bulging of the præcordia, indicating very great and painful distension of the pericardium. The patient was semi-recumbent, with slight inclination to the right side.

On the following day I visited the patient, expecting to be under the necessity of having the operation of tapping the pericardium performed. The respiration, however, had become reduced to 40 per minute, and the patient had eaten a fair dinner of milk and farinaceous food.

* As regards the friction sounds and the apex beat of the heart in pericarditis, I would here allude to the interesting fact which, at times, has been observed, of friction sound being audible to a considerable extent even when much fluid has existed in the pericardial sac. Thus Dr. Russell, of Birmingham, relates a case in the 'British Med. Journal,' 1863, vol. i. p. 137, of Pericarditis, in which, in spite of effusion of fluid to a considerable extent (the cardiac dulness having increased and risen to the first intercostal space), the friction sound was maintained. Niemeyer has also described the co-existence of large pericardial friction and extensive effusion into the sac.

Dr. Williams, in his work on 'Diseases of the Chest,' 1860, p. 237, speaks of the continuance of the friction sound and impulse of the heart even when copious pericardial effusion exists.

We may all of us also remember cases in which, along with a much increased area of cardiac dulness owing to fluid effused, a good deal of friction sound has existed. On the other hand, it is to be noticed that we may have much friction sound and but little effused fibrine. Thus, in commenting upon a case of neglected pericarditis in the 'Transactions of the Pathological Society,' vol. i. p. 213, Dr. Williams observed that he had ascertained that very loud rubbing sounds may be produced by a film of lymph so thin as not to be seen without close inspection, and 'in his experiments on animals he found that the rubbing noise might cease even when neither adhesion nor increased liquid effusion had occurred to arrest it.'

On the 18th the patient appeared low and depressed, and at 9 A.M. the temperature was only 98°. Four ounces of port wine were ordered, and the pills of opium given every six hours.

On the 19th the temperature was 98°, and as the pupils in the evening were very small the opium pills were omitted. The increased cardiac dulness and other heart symptoms remained as before. My surgical colleague, Mr. H. Lee, examined the patient at my request with a view to open the pericardium, if necessary, the area of cardiac dulness having reached a measurement of 6 inches by 7.

On the 20th, as distress had further increased, and the pain at the cardiac and epigastric regions was so great, blistering by the Liquor epispasticus was ordered, and the opium pills were again given every six hours, with the addition of 1 grain of calomel (with the intention of preventing any ill effects of the opium on the secretions &c.).

In the morning the respiration was 48 and the pulse 95 per minute, and the temperature was 98°. In the evening the temperature was 99° and the pulse 98.

On the 21st the distress was decidedly less. In the morning the respiration was only 36, the pulse being 80, and the temperature 98·4.° At 3 P.M. the pulse was only 64. At 10 P.M. the pulse was 68, and very intermitting, the temperature 99·2°; the respiration 36, as in the morning.

On the 22nd much pain was complained of round the left side of the chest, and a distressing cough existed. Respiration was 40 per minute and very abdominal. In the morning the temperature was 99·2°, and the pulse only 48. In the evening the pulse was very intermittent. The mixture with digitalis was discontinued, as also the opium pills, and the nitrate of potash with tincture of squills given every four hours.

On the 23rd, in the morning, respiration was 40, and very abdominal. The temperature was 101°, and the pulse 52 and perfectly regular. Pleurisy had come on with much pain, and slight pleural friction sounds were audible over the left lung below the axilla. The area of cardiac dulness was, however, decidedly less, and the heart sounds could be heard much more than before. The movements of the heart could not be felt.

Three ounces of brandy, in addition to the wine, were given.

In the evening the temperature was 100°, the pulse 52 and quite regular. Respiration was 36 a minute, and still very abdominal.

On the 24th the action of the heart could be distinctly felt. The pulse was 48 both night and morning, with occasional faulty beats. The patient was much easier.

At no time up to this date or subsequently did the urine contain albumen; nor was the voice intrinsically affected;* nor was there ever any difficulty in swallowing.

On the 25th respiration was 28 in the morning, the temperature 99°, and the pulse 48, with an occasional fault. In the evening the temperature was 98°. Physical examination did not show that any noticeable amount of fluid existed in the pleural sac. All friction pleural sounds had disappeared.

On the 26th the respiration was 48, temperature 98°, and the pulse 60, and somewhat irregular in the morning.

On the 28th the pulse was 64, and quite regular. Up to this time the patient had been in all respects improving; distress of breathing and pain gradually subsiding; and the wine and brandy and medicines had been continued, and were persisted in until January 1, when 6-gr. doses of iodide of potassium in decoction of bark were given twice a day.

The patient went on well until January 8, when pain at the præcordial region was again complained of. At this time the sounds of the heart were still indistinctly heard. A blister was applied over the præcordial region. The patient was now taking ordinary diet, with meat and potatoes, but no beer.

The patient went on well in all respects, and on the 19th the wine was omitted, and only 4 ounces of brandy allowed.

On the 22nd there was a slight return of the rheumatic inflammation of the joints, and the temperature was 100°. A rhubarb and magnesia draught was given, and citrate of ammonia saline substituted for the bark, and the meat diet was discontinued.

On the 23rd the morning temperature was 98·2°; in the evening it was 100°.

On the 25th the temperature in the morning was 103°, the pulse 84.

After the above date the rheumatic symptoms disappeared and the temperature lowered, and meat diet was resumed, the salines being omitted. One or two warm baths were given.

* I mention these facts because it has been noticed, as in a case of Dr. Hawksley's (see 'Trans. of Path. Soc.,' vol. viii. p. 71), that hoarseness of voice has resulted apparently from pressure on the trachea by distended pericardium. I have myself also had cases of pericarditis in which dysphagia was a notable symptom, probably from a similar pressure.

On February 2 quinine was given, and the patient was walking about the ward. On the 14th he went to the Wimbledon Convalescent Hospital, having been in St. George's above nine weeks, and he returned for inspection March 6; being quite well and strong, he went home in order to resume the ordinary duties of life.

The above case of rheumatic fever presents, I think, several points which are of interest. In the first place, I would allude to the fact that, as the rheumatic pains subsided, the temperature of the body DIMINISHED IN SPITE OF THE SETTING in of the graver PERICARDIAL symptoms, the heat being sometimes, but not invariably, higher in the evening than in the morning. For whilst on the patient's admission (December 5) the temperature was 103°, and for several subsequent days—viz. from the 6th to the 13th—ranged from 100° to 102°, it fell on the 14th to 98°, and remained varying between this number and 99° and a fraction until the 23rd, during which time the greatest distress from pericardial effusion was experienced, the respiration at one visit being 60 per minute. This decline of temperature could not be referred to the use of the digitalis, since it commenced prior to its first administration, which was on the 16th.

I may here remark that I have in hospital practice met with other cases of rheumatic fever, of which I have notes, in which little or no increase of temperature was occasioned by the pericardial affection. I am also able to quote other observers who have had a similar experience. Thus, Dr. Maclaren (see 'Edinburgh Med. Journal' for June 1872, p. 1094) speaks of the thermometer being but little affected even in advanced pericarditis. Wunderlich says that inflammation of the serous membranes of the chest and abdomen MAY run their course without any elevation of temperature, and that when the temperature course is affected, there is no typical or characteristic form. They may even depress the temperature to sub-normal degrees or even collapse-temperatures. Wunderlich also speaks of peri- and endo-carditis as complications of acute rheumatism, having in many cases no effect at all on the course of the fever, and as sometimes occurring without elevating the temperature even a tenth of a degree. Dr. Woodman, in his translation of Wunderlich's work, quotes the observations of Dr. E. Long Fox, Dr. Herbert Davies, Dr. Habershon, Dr. Reginald Thompson, and Mr. Goodhart, as confirming Wunderlich respecting the uncertainty of the

temperature as a sign of peri- or endo-cardial affections in acute rheumatism. The depression and, at times, irregularity of the pulse, which at one date was as low as 48 per minute, were probably due in part to the action of the digitalis, in part to the effects of the pressure of the rather suddenly effused pericardial fluid on the heart.

One point in connection with treatment I wish to notice—viz. that whereas the application of leeches on two occasions gave little or no relief, decided amelioration of symptoms quickly took place after blistering over the cardiac region had been resorted to.

The question of paracentesis of the pericardium, which at one time was entertained, is a matter which I venture to bring before the notice of the Society. After repeated careful physical examination, the diagnosis was, I thought, sufficiently straightforward, the history, progress, and symptoms of the case making it clear to my mind that the increased area of dulness was due, not to any local pleuritic effusion, to any intra-thoracic abscess or tumour, nor yet to hypertrophy or dilatation of the heart, but to recent rheumatic effusion within the sac of the pericardium. The agony and distress of breathing (A) and the sleeplessness were so great that the 'indications' were clear, and we were on the point of tapping the pericardium; and most likely, considering the character of the pericarditis and the freedom from complications, especially from a scrofulous taint (B), the operation would have proved successful. Still, bearing in mind the possibility of untoward circumstances resulting from the operation, such as the entrance of air into the pericardium (C), injury of the heart itself (D), or of the vessels of the walls of the chest (the intercostal and internal mammary vessels), and the consequent hæmorrhage, and possessing no personal experience of the operation, I hesitated in having recourse to it, and the event proved that the delay was justifiable. Had there been positive and manifest interference with oxygenation of the blood, or had anasarca been occasioned, I should undoubtedly have had the operation performed. And should another case present itself of so favourable a nature as respects its character and antecedents, and relief not follow the use of remedies, as in the present case, I should not hesitate to have recourse to the operation.

As far as I know, tapping the pericardium has only been resorted to seven times in Great Britain. To begin with recent cases, it was performed once by Mr. Wheelhouse (E),

twice by Mr. Teale (on all these occasions at the recommendation of Dr. Allbutt, of Leeds); once, and that recently (in a case of pleuro-pericarditis), by Dr. Maclaren, of Lesswade, Edinburgh (F) (see the 'Edinburgh Med. Journal' for June 1872, p. 1091); on two other occasions in Scotland, as mentioned in the discussion at the Edinburgh Med.-Chirurg. Society on Dr. Maclaren's case (see October number of above Journal, p. 375)—viz. by Dr. A. Duncan, jun., and Professor Lizars;* and on one occasion, as mentioned at the same discussion, by Dr. Bruce, of Edinburgh, the pericarditis having followed an attack of scarlet fever.

It has, however, as most members present may know, been several times performed on the Continent; and it has been performed in America; and most of these foreign cases, as also a nearly complete historical notice of the operation, and of the various modes of procedure which have been resorted to, have been described by Trousseau in his lecture† upon

* Lizars, in his 'System of Anatomical Plates,' Part ii. p. 158, observes, 'if cautiously undertaken, I see no danger to be apprehended from the operation (paracentesis pericardii), and shall certainly perform it the first opportunity.'

† Trousseau points out that Riolan in 1649 first formulated the indications for resorting to the operation, and that in 1749 Senac first pointed out the possibility of successful paracentesis of the pericardium. He then alludes to various authors quoted by Sprengel, who spoke of the feasibility of the operation, and mentions the following names in succession as having written about it, some approving and others dissuading, viz. Ricter, Van Swieten, B. Bell, Camper, Arnemann, Conradi, Desault (1798), Larrey (1810), Skielderup, a Norwegian, who trephined the sternum (1818), Corvisart (1818), Kreysig, Laennec, Richerand, Schuh (1839), Heger, Romero of Barcelona (see 'Dict. des Sciences Médicales'), Bowditch of Boston, Behier, Aran, Roux. Of the above, Schuh first performed the operation: others followed, in certain cases with, in others without success. Trousseau describes the mode of operation adopted on various occasions. The last allusion that I can find recorded, of Trousseau's, regarding the mode of operation is in the 'Clinique Médicale de l'Hôtel-Dieu,' 1860. In the case quoted (cited by the Sydenham Soc. Year-Book, 1860) he divided the tissues carefully with a bistoury, which was considered safer than a trocar, at the outer border of the sternum, on the level of the fifth, sixth, or seventh cartilage, having reference to the spot of greatest dulness and where the heart's sounds are least heard. The costal cartilages which touch each other at this part should be separated by a spatula or other convenient instrument, and, if necessary, a piece should be cut away large enough to allow the point of the finger to penetrate to the outer surface of the pericardium, which should only thus be incised or punctured when the presence of fluid beneath the finger has been positively ascertained.

Trousseau alludes to a discussion which arose in the Société de Médecine des Hôpitaux de Paris *d propos* of a case brought forward by Behier. It may be a matter of interest here to allude to other authors than Trousseau, who have given an historical notice of the operation of tapping the pericardium. Thus, in Tweedie's 'System of Practical Medicine' is an article by Dr. Jay (see vol. iii. p. 377) on 'Hydropericardium,' in which is a partial and incomplete notice of the various modes of this operation which have been resorted to: and to come to a later date, a notice of the operation is given by Billroth in the 'Handbuch

the subject; and by Dr. Allbutt (G) in three communications to the public journals. Both these physicians strongly urge the use of the operation in suitable cases; and Dr. Sibson has advocated it (see 'Brit. and For. Med.-Chirur. Rev.' 1854).

It would appear that the earliest instance of tapping the pericardium by means of suction is related by Dr. Mader in the Vienna 'Wochenblatt der k.k. Gesellschaft d. Aerzte,' No. 24, 1868. The instrument used was improvised out of a glass syringe, and the needle and canula of a subcutaneous injection syringe. The case was one apparently of serous exudation, without fever, into the pericardium. The puncture was made into the third intercostal space on the left side, 1 inch external to the edge of the sternum, and about 2 oz. of fluid were drawn off, with great relief. The fluid accumulated again, and a second operation was performed, the puncture being on the RIGHT of the sternum (third intercostal space), but hydrothorax had come on, and though 3 oz. of fluid were drawn off, but slight relief followed, and the patient died. Dr. Mader, in speaking of the operation of tapping the pericardium, observes that the dangers to be expected from applying the suction-pump to cases of pleuritic adhesions, viz. the too rapid extension of the false membrane, bleeding from and laceration of the same, and disease of the lungs as a consequence of forcible distension, are not to be feared in this operation, as the lungs will readily follow the relieved parietal layer of the pericardium.

As far as I can discover, the last time the operation was performed in France was by Dr. Chairon, the operation consisting of capillary puncture of the pericardium, and subcutaneous aspiration (see 'Lancet' for November 30, 1872, p. 785).

In only a single case, I believe, was the operation resorted to for giving exit to perfectly purulent fluid. The patient was under the care of Dr. Frémy at the Hôtel-Dieu. The affection followed an attack of bronchitis and pneumonia, and the operation was successful (H). The instrument used was Dr. Dieulefoy's 'aspirateur à crémaillère,' made by Robert & Colin, of Paris, which consists of a capillary trocar

allgemeinen u. speciallen Chirurgie' (Erlangen, 1865), Bd. iii. Abtheil ii. Lief. i. p. 163, in which the authorities of Jowelt, of Kolletschka, of Kerawajeff, and Kyber are quoted, in addition to those mentioned by Trousseau. Billroth is himself, however, evidently not friendly to the operation; but he does not seem to have had experience of, or make allusion to, the operation performed by suction apparatus or aspiration, which, of course, is connected with a much less formidable wound and freer from the chances of admission of air into the pericardial sac.

connected by a flexible tube with a glass cylinder, from which air is exhausted by a piston (worked by a crank or screw), and into which the fluid is drawn upon turning a tap with which the elastic tube is connected (I).

As before remarked, I should much like to gather the opinion of this Society on the general expediency of having recourse to the operation in question, also as to the best mode of procedure in performing it, and as to the period or stage when it is thought advisable; knowing, from the interesting discussions which we have had in this Society, how many of our members are urgent in pressing the operation of tapping in cases of pleurisy, in anticipation of the use of drugs.

Any one of us might at any moment be called upon to determine the mode of action in a case of distension of the pericardium, where hesitation and delay might be dangerous. For my own part, I can call to mind several cases in which it appeared after death that tapping the pericardium would have saved life, nothing having been found tending to death but the increased fluid in the pericardium,* cases in which during life the operation of tapping was never once dreamt of.

After comparing various aspirating or suction instruments, the two which appear to me to be the most desirable are the one before mentioned of Dieulefoy's, as modified by Weiss, and one originally made by Matthieu, of Paris, and modified by Hawksley, which has the advantage in simplicity, portability, and facility of adaptation over the previous one.

* One of the most interesting cases of the kind which I might quote for my purpose is related at page 79 of the 'Transactions of the Pathological Society,' 1855–56 (vol. vii.). The patient, a young man, æt. 26, having been attacked with pain in the left side of the chest three weeks previously, was admitted into hospital November 5, breathing at 45 respirations per minute, and presenting the following physical signs: 'Excessive dulness on percussion over a space bounded above by the lower margin of the left first rib; below by the lower margin of the chest; to the left by a line 1 inch to the right of the sternum. The chest elsewhere was fairly resonant; less so on the left than on the right side. The heart's impulse could not be felt anywhere; and its sounds were feeble and distant. Large crepitation was heard over the left side.' These symptoms did not materially alter, and he died on the 11th. After death no disease, excepting slight pleural adhesion, was found, except what was produced by pressure of the distended pericardium, which reached from the upper margin of the sternum to the lower margin of the ribs on the left side. The greatest vertical length was 8 inches, its greatest breadth 8¾ inches. It contained about two quarts of puriform fluid, and had patches of lymph attached to its inner surface. The parietal layer of pericardium was very thickened, and the heart was flabby. A second highly interesting case in point, also quoted from the 'Transactions of the Pathological Society' (vol. xi. p. 61), is that of a boy, æt. 14, who for ten months had had extensive pericardial effusion following scarlet or rheumatic fever. In addition the boy had ascites, for which he had been tapped, and peritonitis, of which he died. After death, it is reported that 'nearly the whole of the left side of the chest was filled with the distended pericardium: the sac reached

The latter instrument consists of a small brass syringe, having a stop-cock, which, by means of an india-rubber cork, can be adapted to a bottle of any capacity, and an elastic tube having a stop-cock, to be also attached by an india-rubber cork to the bottle, furnished with a capillary or other trocar or needle. When the instrument is used, the air out of the bottle is exhausted by means of the syringe, the stop-cock in the tube with the trocar having been previously turned; and the trocar having been introduced into the cavity containing the fluid to be drawn off, the stop-cock is again turned, and the fluid is thus sucked out into the bottle. The elastic tube, at a part not far from its extremity, where armed with the trocar, is interrupted by a portion of glass tube, so that the nature of the fluid withdrawn can be seen at once, and is also, in accordance with a suggestion of Mr. Godrich (see 'British Medical Journal' for March 22, 1873, p. 330), furnished with an additional stop-cock near the trocar or needle, to be closed before the needle is inserted, as an additional precaution against the admission of air.

P.S.—Since the above was written, the operation of tapping the pericardium has been performed twice on a boy, æt. 6, a patient of Dr. Ringers', by Mr. Christopher Heath, and with complete success. The boy died subsequently with ascites.

Note A. (*See page* 136.)

At one time respiration was 60 per minute. In a case to be alluded to later on, of Dr. Allbutt's, the breathing was counted as 90 per minute; it went down to 68 after the evacuation of 5 oz. of fluid from the pericardium.

Note B. (*See page* 136.)

Aran, as quoted by Trousseau in his lecture on Paracentesis of the Pericardium, concluded 'that dropsy of the pericardium, when chronic and latent, generally co-exists with tuberculous disease, and that these pericardial effusions which may be called symptomatic are also

to the parietes and was firmly adherent to them: only a small portion of the lung could be seen above, the organ being forced upwards and inwards against the spine.' The pericardial sac was several times as thick as natural, and the fluid contained amounted to about 1 pint.

In passing, I may, as an illustration of the extent to which pericardial effusion has occurred, observe that Corvisart mentions an instance in which 8 pints of fluid were found in the pericardium.

generally those which assume such proportions as to necessitate paracentesis.'

Trousseau coincides in this opinion, and Dr. Allbutt, in his remarks to be noticed later on, refers to certain cases as being 'phthisical,' inasmuch as they occur in phthisical subjects, and are not attended by obvious inflammation. In a recent discussion on the operation of tapping the pericardium at the Edinburgh Med.-Chir. Soc., April 3, 1872, Dr. Sanders dwelt on the importance of knowing whether pericardial affections are of a tubercular nature or not, as our prognosis will depend much on such knowledge.

Note C. (*See page* 136.)

Dr. Allbutt remarks that on the next occasion of tapping the pericardium he would 'advise the connection of the canula with an india-rubber tube, so that the effusion may be allowed to escape under water.' In both of his cases referred to below the trocar was used, and was inserted at the upper border of the fifth left cartilage, about one-third inch from the sternum.

As respects the avoidance of the entrance of air into the pleura, sundry cases are on record showing the impunity with which, under certain circumstances, this may happen. In 1818, Richerand (see notice in the 'Edinburgh Med. Journal' for that year, p. 647, of a paper read at the Royal Academy of Sciences of the Institute of France, April 27) performed the operation of removing portions of two ribs and of the pleura, along with a cancerous mass. In that case a square aperture, like a window, of a very large size, was made in the chest. For twelve hours the patient was in great danger from dyspnœa, but eventually recovered. In connection with this operation it may be noticed that Richerand suggested that paracentesis might be resorted to in dropsy of the pericardium (as mentioned by Trousseau), and that a radical cure by injections might be produced, as in hydrocele.

Dr. Handyside, of Edinburgh, has kindly sent me quotations from some MSS. notes which he has of the late Dr. Fletcher's lectures on Physiology and Therapeutics, in which it is stated that Professor Lizars, in a case of hypertrophy of the heart, *squirted air into the pericardium* to relieve violent angina pectoris; that Lizars' case died, and that the heart is in the Mackintosh department of the Edinburgh Royal College of Surgeons' Museum. According to these notes, Dr. Duncan read a paper on the subject to the Royal Society of Edinburgh previous to 1831, and mentioned that the man operated on had, himself, from time to time injected air into his own pericardium to relieve distressing symptoms. I need hardly say that I am at a loss to understand the operation thus alluded to. Dr. Pettigrew, the Conservator of the Museum of the Edinburgh Royal College of Surgeons, is, at the present time, unable to find the specimen referred to, nor can he learn anything about it from Professor Sanders, the former Conservator. Several accidents and operations are on record which show that the pericardium may be wounded and death not follow.

Note D. (*See page* 136.)

In the operation of removing the portions of ribs by Richerand, alluded to in the above note, the operator, as he observes, did not lose the opportunity of again proving the perfect insensibility of the heart and pericardium, and the patient was quite insensible to the gentle application of the fingers to these organs. It may be remembered that Harvey describes a remarkable case (and a most interesting and graphic description it is) of a young man who for years had had a suppurating abscess forming an immense gap in the side, in connection with fracture of the ribs. Into this open space three fingers and a thumb could be passed, and through it could be seen 'a certain protuberant mass, which was really the apex of the heart, covered with a layer of fungous flesh by way of external protection. Harvey proved to his own satisfaction and to that of his royal master, to whom he showed the case, that the heart so exposed was without the sense of touch. He concludes that the heart, the 'most distinguished member in the body,' is insensible. I am not sure that this statement is proved by the case above related, as no doubt what was seen and touched through the gap in the side was a mass of granulations covering the pericardium. Of course wounds of the heart, of whatever kind, are not necessarily fatal. This was well shown by Dupuytren in a chapter on this subject, in his work on Lesions of the Vascular System. Lately, Mr. Callender, at the Medico-Chirurgical Society, related the case of a patient who had had the heart deeply pierced by a needle, which he removed without the patient suffering any harm.*

Note E. (*See page* 137.)

The particulars of the operation in this case were described by Mr. Wheelhouse to the surgical section of the British Medical Association for 1868 (see the Journal of the Association for October 10, 1868, p. 384).

Note F. (*See page* 137.)

The pericarditis was associated with tubercle of the lung and non-rheumatic. Dr. Maclaren first made an incision over the pericardium, and then by trocar emptied no less than 35 oz., with great comfort to the patient. The points which Dr. Maclaren wished to bring before the Edinburgh Med.-Chir. Soc., when he related the case, as he informs me, were that the operation must necessarily be chiefly palliative, that the relief afforded is very great, and that the means adopted were safe, simple, and inexpensive.

* Since this paper was read, Dr. Macpherson has, in a paper recording a case of traumatic pericarditis (see 'Med. Times and Gaz.,' May 10, 1873, p. 491), alluded to other cases of puncture of the heart's walls, and also to the experiments of Steiner, of Vienna, who concludes that needles may safely be introduced into either of the heart's ventricles, provided they are at once withdrawn; if allowed to remain in or near the cardiac tissues, laceration was usually the result.

Note G. (*See page* 138.)

One communication by Dr. Allbutt was to the 'Medical Times and Gazette' for Nov. 3, 1866; one to the 'Lancet' for June 12, 1869; and a third to the 'British Medical Journal' for July 9, 1870 (vol. ii. p. 31), *à propos* of a case of fatal dropsy of the pericardium described by Dr. Heaton in the number for July 2, who has also himself, in connection with another case of pericarditis, related at page 96 of the 'British Med. Journal' for July 22, 1871, discussed the propriety of the operation of tapping the pericardium.

Note H. (*See page* 139.)

In this case a difficulty was presented by the amount of anasarca which existed, preventing the counting of the intercostal spaces. Unintentionally the trocar was passed through one of the costal cartilages, and thus the outlet of fluid was much hindered by the wad of cartilage which plugged up the canula. Such fluid as did manage to come out flowed through a small aperture which existed at the side of the canula.

This fact affords a useful hint for guidance as regards the construction of canulas.

Note I. (*See page* 139.)

Collections of *blood* in the pericardium, unconnected with injury, are very rare, still such are placed on record: in some of them the blood has been large in quantity, and in such the aspirator would unquestionably be useful. The following is the most remarkable case I know of hæmorrhage into the pericardium. It was a case of angina pectoris, related in Vol. I. of the 'Memoirs of the Medical Society,' No. 238, in which, after death, the pericardium was found to be distended with *five pints* of blood, and to be so dilated as to fill entirely the left cavity of the thorax. The illness of the patient began with pain in the side, followed by cough, after catching cold; but after death no cause of the hæmorrhage was discovered. It may fairly be presumed that the blood might have been removed in this case by paracentesis.

XXXII.—*Case of Muscular Tumours and of Phlebitis, with plugging of the superficial veins of both legs, in a patient the subject of Constitutional Syphilis.* By Edward Headlam Greenhow, M.D. *Read March* 28, 1873.

I AM led to bring the following case under the notice of the Society because I regard it as in some degree illustrative of two subjects touched upon by the President in his

very interesting and suggestive inaugural address, viz. Plugging of the Veins and Muscular Tumours in persons suffering from Cachexia.

Previous history.—Mr. F. J., æt. 33, by occupation a merchant, first came under my care in 1870 for phthisical disease in the apex of the right lung, attended by emaciation and night-sweats. He had, also, some suspicious dusky-looking copper-coloured blotches upon the thorax and back. Under the use of syrup of iodide of iron with iodide of potassium and cod-liver oil, he gradually improved, the cough abated, the eruption disappeared, and finally he recovered and went abroad. After a year he returned, and I saw him early last spring in perfectly good health. He had gained upwards of a stone in weight, was free from any symptoms of phthisis, and, with the exception of a little flattening, and of somewhat harsh tubular breathing, with increased vocal vibration in the right infra-clavicular region, presented no traces of his former serious illness.

Present illness.—Towards the end of last year he again came to consult me, looking ill and haggard. I ascertained that he had been in the country, hunting and coursing, and evidently leading a rackety life. He complained of great debility, of sleepless nights and profuse night-sweats, of total loss of appetite, and of aching pains in the back and limbs. His fauces were swollen, œdematous and of a bright-red colour, and he had two rupious-looking spots on the right leg, one on the calf and the other on the inside of the knee, the latter of which he attributed to the chafing of the stirrup-leather. He stated that he was chilly in the evening, and had some shortness of breath with a sense of oppression on the chest. He also had slight cough, but scarcely any expectoration. Pulse 90. Temperature 102°. On examination of the chest I found faint high-toned clicking below the right clavicle in the seat of the former mischief, but this was not enough in my opinion to explain the constitutional disturbance under which he was labouring.

I prescribed ten grains of the bromide and three grains of the iodide of potassium, to be taken three times a day, and also a pill containing one grain each of sulphate of zinc and sulphate of quinine, with three grains of extract of hemlock, to be taken night and morning, with the view of moderating the night-sweats. I further advised him to restrict himself to half a bottle of claret daily, but to take a sufficient quantity of plain nourishing food.

Progress of case.—The patient's general health improved, but the pains in the back and limbs continued, and he complained of stiffness in the calves and thighs. An eruption, which I can only describe as a mixture of roseola and eczema, appeared in patches upon the chest and partially over the back and abdomen, whilst the legs became covered with a papular rash. With the outbreak of eruption the temperature fell to the normal standard and the pulse to 88. The cough also abated, but the urine was loaded with acid urates and the profuse night-sweats continued.

January 4, 1873.—Mr. F. J. still presented a cachectic aspect, and there was now superficial ulceration in the fauces. He had several painful, circumscribed muscular swellings in the calves, and one of a similar character below the angle of the lower jaw on the right side; there were also enlarged glands in the neck and in the groins both above and below Poupart's ligament. The pain and stiffness in the limbs and the night-sweats continued, but the chest symptoms had diminished, and no crepitation could be heard in the apex of the right lung. I now prescribed three grains of iodide of potassium, with five grains each of carbonate of ammonia and of citrate of iron and ammonia, to be taken three times a day, desiring him to continue the pills of sulphate of zinc and quinine as before.

11.—In some respects improved; the swellings in the calves were much less hard and painful, but the swelling beneath the lower jaw had suppurated, and was fluctuating. The superficial veins of the right leg and thigh were now also apparently plugged, and stood out like hard cords from the limb, which was somewhat swollen, brawny-looking, and painful on pressure. Pulse 76. Temperature 98·5°.

I proposed that he should see one of my surgical colleagues for the abscess under the jaw, and should afterwards go to the seaside for rest and change of air. He, however, preferred, if the abscess were to be opened, going at once to the seaside to lay up there, and I accordingly placed him in the hands of my friend Dr. Bowles, of Folkestone, who in a day or two made an opening into the abscess. At first he improved very much, and after some time Dr. Bowles informed me that the swelling and hardness of the veins had almost disappeared; but on his beginning to move about again he had a relapse, and the swelling and hardness spread upwards towards the groin. This was partially subdued by leeching and poulticing; but when I again saw him, on February 3,

although the veins of the right leg were much relieved, those of the thigh only remaining plugged and somewhat painful, the corresponding veins of the left leg were similarly affected. I therefore increased the dose of iodide of potassium to five grains, and resumed the use of the iron, which it had been deemed prudent to withdraw for a time on the occurrence of the relapse.

March 1.—Both legs have now returned to their normal size; the eruption has almost disappeared both from the trunk and extremities; the abscess under the jaw is perfectly healed; pulse and temperature are normal, and patient has gained half a stone in weight since January 16. He is still by no means well as regards the constitutional disease, but his case no longer presents any unusual symptoms.

Remarks.—Considering that this patient was evidently the subject of constitutional syphilis when I first saw him three years ago, I was at first inclined to believe that his later symptoms were due to the lighting up again of the old disease by exposure and irregular living. The rupious spots and muscular tumours much more closely resembled tertiary than secondary syphilitic disease. I did not therefore enquire very minutely into the immediate antecedents of his present illness. Dr. Bowles, however, who was unacquainted with the earlier history of the patient, elicited the fact that there had been a sore upon the penis which had lasted upwards of two months, and only healed a short time before Mr. F. J. came under my observation in November last. With regard to the muscular tumours, of which there were several on each calf, varying in size from that of a hazel-nut to a walnut, it is well to draw attention to the circumstance that they were already beginning to subside before the veins became inflamed, from which I infer that, though proceeding from a common constitutional condition, these symptoms did not stand in the relation of cause and effect. Although I at first considered the tumour at the angle of the lower jaw as identical in nature with those on the legs, it ran a different course, and was, I consider, of a different character. Dr. Bowles thought it probably connected with inflamed bone; and, although the abscess is at present closed, this may even yet prove to have been a correct surmise. It has sometimes been a question with me whether the lung disease of 1870 may not have been syphilitic. Never having seen syphilitic disease of the lungs, I cannot venture to express a positive opinion on this point; but, *primâ facie*, I should have expected

that, if it had been syphilitic, the disease would have manifested itself in both lungs, and probably in several parts of each, whereas it was limited to the apex of the right lung. It is with considerable hesitation that I venture to submit to the Society only one phase of a case still under treatment, and so imperfect in many of its details. As already stated, I am induced to do so on account of the apparent similarity it bears to some of those referred to by the President in his inaugural address. My case, however, differs from Mr. Prescott Hewett's in this respect, that whereas the cases he had seen were all in persons of gouty constitution, my patient was obviously the subject of constitutional syphilis, and there was no trace of gout either in his family or personal history.

XXXIII.—*A Case of Primary Schirrus of the Breast treated by Caustics and Incisions.* By W. B. Kesteven. *Read April* 25, 1873.

In narrating the following case, it will be obvious that I do not pretend to have brought before you any special novelty, nor any facts of other than practical interest. I have ventured to bring it under your notice solely with reference to the therapeutics and pathology of cancer, and with some hope of eliciting information upon these points in connection with the particular mode of treatment that was followed.

The patient, whom I have known many years, consulted me in May 1865 on account of a tumour in the breast. She was then about 65 years of age; tall, and of large frame; her health had been generally good, and she had borne several children.

The breast was large and loose, the nipple not retracted; the axillary glands were unaffected. The tumour was about the size of a small apple, perfectly movable, and very hard. The skin was slightly adherent to the tumour. The opinion of Sir James Paget was taken in the case. Looking to the patient's age and constitution, it was thought undesirable by him to incur the risks of removal of the breast by the knife. It was therefore determined that I should have recourse to treatment by caustics and incision, upon the

principle that had been introduced a few years before by Dr. Fell.

On May 19, the integuments covering the tumour were destroyed to the extent of three inches by the use of Vienna paste, the adjacent skin being protected by soap plaster.

Intense pain followed this application, and was allayed by opium.

On the following day, parallel incisions, half an inch apart and a third of an inch in depth, were made through the tough brown eschar. Strips of lint, spread with a paste consisting of chloride of zinc and flour, were laid in the incisions; these were deepened from day to day, until the hard grating substance of the tumour had been passed through, and the healthy parts beneath were reached, which was in about ten days' time.

The application of the caustic was then discontinued, and a linseed-meal poultice was laid upon the surface. The separation of the eschar had already begun, and in the course of a week was complete, all the structures having been completely ulcerated through. Slight hæmorrhage had once or twice followed the incisions, but was checked by the chloride of zinc.

The eschar weighed about six ounces, and had the shape and size of a shallow tea-cup. A healthy granulating surface nearly filled the cavity at the time of the separation of the eschar. This was completely filled up and healed in six weeks afterwards; water dressings only were applied.

No constitutional disturbance occurred; no internal medicine of any kind was given beyond opiates; the patient took her ordinary diet, and returned to her home in the country at the end of June, from whence I heard of her as having completely recovered and enjoying better health than previously.

In September 1867, however, I was again consulted by this lady, and found a recurrence of the growth in the cicatrix. The tumour, this time, was of about the size of a walnut. On October 9 the same plan of treatment, as before, was recommenced and carried through, as on the former occasion, without the administration of any internal remedy. On the 22nd of the same month she went back to her home, and with the exception of suffering from chronic rheumatism, has since then remained in good health and without any sign of the recurrence of the cancer.

As already stated, I have related this case not because of any singularity that characterises it, but because of its practical bearing upon the therapeutics and pathology of cancer. With reference to these I hope to elicit (for myself) some information from their discussion by the members of this Society.

The method of treatment herein adopted was favourably reported upon by the surgical staff of the Middlesex Hospital in 1857.

How far the conclusions of that report have been borne out by the subsequent experience of the profession has not, that I am aware of, been very distinctly pronounced, although for this deficiency of knowledge I may possibly have only myself to blame.

It will be of service to the profession to have pointed out to us by those of sufficient experience in this matter the class of cases in which this treatment by caustics and incisions have been found to be most suitable.

I have in this case dwelt upon the fact that no internal remedies were employed in a curative sense. In no case that I have ever seen did the internal administration of arsenic, or any other medicinal agent, exercise the slightest power in reducing the size of a cancer tumour.

With reference to the pathology of cancer, the present instance, I would suggest, seems to support the view that cancer is a local disease. In this case, although the disease reappeared within two years of its first removal—probably from a small portion of disease having been left—yet I imagine that a sufficiently long period (six years) has been allowed to elapse since the second removal to permit us to hope that the cure is complete. This conclusion is further strengthened by the fact of the advanced age and subsequent good health of the patient.

XXXIV.—*Case of Acute Muscular Atrophy.* By Edward Headlam Greenhow, M.D. *Read April* 25, 1873.

Ann C., æt. 26, a single woman, and by occupation a domestic servant, was admitted into the Middlesex Hospital under my care on February 20, 1873.

Family and previous history.—One of patient's grand-

father's died of epilepsy. Both her parents and three brothers and sisters are living and in good health, except that her father suffers occasionally from slight rheumatism; a brother died of some disease of the lungs, and a sister of croup; another sister died last year in the hospital under my care, at the age of 27, of progressive muscular atrophy, and her case is recorded in the fifth volume of the Society's Transactions.

With the exception of mere trivial ailments, the patient had enjoyed good health up to the beginning of her last illness, which dated from only about three weeks before her admission. She then first complained of pain in the abdomen and of weakness and languor, and having had about the same time considerable anxiety of mind, she became much depressed in spirits; she also began to experience a slight deficiency of freedom in moving her arms and legs, together with a sense of heat and pricking in the pectoral muscles, which was sometimes greater on one side and sometimes on the other. These symptoms increased so rapidly, that by the end of a week she was no longer able to go about, and took to her bed on February 7; she then came under medical treatment, but was allowed to take an excessive amount of spirits, for which she felt a craving. From the time she took to bed she was frequently sick after taking food, had a slight cough and sweated a good deal; she also gradually became sensible of pain and weakness everywhere, and of a feeling of numbness in the lower extremities. Her intellect remained clear, and she had had no delirium.

State on admission.—Patient has the appearance of a healthy, well-nourished girl, but her aspect is anxious and abstracted. Her complexion, hair, and eyes are dark. Tongue thickly coated with white creamy fur. Skin moist. P. 140. T. 99·8°. Lungs and heart appear perfectly normal. Bowels confined; urine acid, sp. gr. 1022, of a red colour, closely resembling one of the lighter red wines; on being boiled, it presented a mere trace of albumen. On being treated with hydrochloric acid it became of a darker colour, and after standing a few hours it acquired a deep reddish-purple hue, somewhat resembling that of claret.

Patient complains of pains in the shoulders, arms, and abdomen; but no definite tenderness can be made out, nor is there any swelling or redness in the parts complained of. On being desired to put out her hand she does so in an

awkward manner, the movement of the shoulder being very imperfect, and being supplemented by a thrusting forwards of the trunk. Can move her forearms and hands quite freely. The pectoralis major muscles appear ill-nourished, and the muscles of the arms and legs are soft and flabby, but there is no definite wasting.

An enema was prescribed to clear out the bowels, and simple effervescing medicine was ordered till the nature of the case should become more evident.

Progress of case.—February 21.—Patient has not slept, and is sweating. Is somewhat delirious, but can answer questions coherently. Face anxious; pupils dilated; tongue thickly coated with creamy fur, dry and fissured in centre. Pulse 140, tolerably firm. Temperature 100·2°. Complains much of pain in the abdomen, which is somewhat tense and tender on pressure. There is also obscure, ill-defined tenderness on pressure over the arms. Lies with her legs drawn up; the movements of hands and arms are more imperfect than yesterday.

A linseed poultice, with laudanum, was ordered to be applied over the abdomen.

I this day learned the fact that my patient was sister to Mrs. P., who died under my care last year of progressive muscular atrophy; and I also ascertained from Mr. P., who came to visit his sister-in-law in the hospital, that the early symptoms had been very similar in the two cases. With these facts before me I ventured, in the absence of any other discoverable disease, to diagnose the case as one of acute muscular atrophy, although I knew of no similarly acute case on record.

At 9 P.M. this day the pulse was 148, and the temperature 99·9°.

22.—Patient has been very delirious during the night; once fell out of bed, and once got out and stood by the bedside. A full dose of chloral was given without inducing sleep. Spirits depressed and mind much confused. Face flushed and anxious; eyes suffused and slightly bloodshot; sordes collecting on teeth and lips. Tongue tremulous, dry and fissured in centre. Pulse 150, temperature 100·4°; is sweating profusely. Urine, sp. gr. 1025, faintly alkaline, and containing a bare trace of albumen, is less high-coloured than before. The specimen treated with nitric acid yesterday has become almost black, but presents no sediment.

Patient still complains of pain in the abdomen, which,

however, is scarcely tender on pressure, but its walls are tremulous. To-day cannot raise her left hand from the bed, but can move it about on the bed. Can move her arms, though with difficulty, and in attempting to alter the position of the left hand brought the right to its aid. Muscles of thumb and hand soft and flabby; extensors of wrists and hands very feeble, the wrists and fingers lying semi-flexed. When the hands are held up she can, though with evident effort, straighten both wrists and fingers for a few moments, after which they relapse into their semi-flexed position. Lies on her back with the lower limbs extended, and feet slightly inverted. The pectoral muscles appear very flabby, even more so than two days ago, and the respiratory movements are very feeble, both the elevation and expansion of the chest being defective; the diaphragm is also acting feebly. The deltoid and dorsal muscles appear to be well nourished. No fibrillating muscular movements can be elicited by striking or pinching the muscles.

9 P.M.—Patient delirious and noisy. Pulse 148, temperature 100·4°.

February 23.—Passed a sleepless night, wandering in mind, but never attempting to get out of bed. Tongue dry and fissured; sordes on teeth and lips; pulse 140, temperature 100·8°. Mind incoherent. Bowels have not been moved since the enema. Urine passed involuntarily since yesterday.

Patient still sweating. No longer complains of pain, and the abdomen presents no tenderness on pressure. Cannot lift either hand from the bed; can move the left wrist-joint freely, but not the right. Can pronate, but not supinate, the left forearm, and can do neither with the right. Can almost straighten the left wrist when the arm is raised from the bed, but not the right one. Is unable to straighten perfectly the fingers of either hand, but can straighten those of the left more nearly than those of the right hand. Lies on her back, and though still able to straighten her feet and move her toes, she lets them return immediately to their inverted and somewhat flexed posture. Expansion of the thorax in respiration is very slight, and decidedly less on the right than on the left side.

9 P.M.—Sweating profusely. P. 144, T. 101·2°. Passed urine consciously in the afternoon; sp. gr. 1020, alkaline, containing a faint trace of albumen, and becoming, as before, very dark on being treated with nitric acid.

February 24.—Wandered very much during the evening, but passed a quiet, though sleepless night. Is now incoherent, continually muttering and talking about her work. Face flushed; tongue dry, brown, and cracked in centre. P. 124, T. 101·4°, R. 40. Abdomen covered with sudamina. No action of bowels. Urine, sp. gr. 1025, neutral, free from albumen; still giving the peculiar dark reaction with nitric acid.

Again complains of pain in the muscles of the arms. There is now great loss of power evident in the extensors of arms and wrists, causing well-marked drop-wrist in both arms, and an approach to the griffin-claw position of the fingers in both hands. She continues lying upon her back with the lower limbs extended.

9 P.M.—Bowels moved by an enema. Low muttering delirium. Breathing laboured. P. 120, T. 101°. Aspect slightly improved.

25.—After a dose of chloral, patient had slept from midnight to 5 A.M., but was wandering in the morning, and lay on her back taking little notice. Face flushed; tongue moister; lips dry; skin moist. P. 140, T. 100·8°. Breathing hurried. The bowels have acted twice, the motions and urine having been passed in bed. Still complains of pain in the abdomen. The hands and arms are now quite powerless, the wrists markedly dropped, and the fingers semi-flexed.

For three days she had had slight symptoms of bronchitis, and at 2 P.M., the hour of my visit on this day, her breathing was frequent and shallow. T. 101·6°. A few minutes after 6 P.M. her breathing became suddenly worse, and she expired almost immediately.

Chemical examination of the urine.—The urine was carefully analysed, at my request, by Dr. Divers, who reports that it owes its dark red colour to the presence of uroerythrine; being in that respect precisely similar to the urine in Mrs. P.'s case, read before the Society last year.

Post-mortem examination made nineteen hours after death. Body apparently well nourished. Muscles of the normal colour. There was no apparent wasting of any but the pectoral muscles, which were notably thinner than usual.

Head and spine.—Sinuses of dura mater and veins on upper surface of brain full of fluid blood. No flattening of convolutions. Grey matter a little paler than usual. Substance of brain firm. Very little fluid in lateral ventricles. Spinal cord firm and apparently normal. On dividing the cord, a large vessel full of blood was seen in the mid-dorsal

region, close to the central canal. The lustrum of the canal itself could not be made out even with the aid of a lens.

Thorax.—The pericardium contained half an ounce of serum. There was a fair amount of fat on the surface of the heart. Some ecchymoses appeared on the left auricle. The right auricle and ventricle contained no clots, but were full of fluid blood. The left ventricle was contracted and empty. The endocardium lining both ventricles was opaque and thickened in patches, and the muscular substance was pale-coloured. This was the case with the right side especially, and with the auricle still more than the ventricle. The valves were all healthy.

There was hypostatic congestion of both lungs and evidence of acute bronchitis. The upper lobes of both lungs were œdematous, exuding on section a frothy fluid. The bronchi were full of fluid. A small area of the posterior surface of the left lung was collapsed, and sank in water. The rest of the lung-tissue was healthy and crepitant.

Abdomen.—The stomach was congested near the cardiac end. The small intestines were congested throughout, and here and there in the ileum one or two solitary follicles stood prominently out. There was no notable injection of Peyer's glands and no ulceration anywhere. The large intestine was somewhat less injected than the small, and was also quite free from ulceration. The mesenteric glands were somewhat enlarged. The liver was in a state of portal congestion, and its substance was firm. The spleen was large and firm, and on section apparently fibrous. The kidneys were in part adherent to the capsules, which were thickened. The cortex and medulla were of a dark red colour. There was no visible wasting of the cortices.

Microscopical examination. Muscles.—Portions of several sets of muscles were carefully examined immediately after the post-mortem examination, by Dr. Cayley, Mr. Sidney Coupland, and myself. Their appearance under the microscope is shown in the annexed drawing, made for me by Mr. Coupland.

Most of the fibres from the extensors of the forearms presented, within the sarcolemma, a finely granular appearance, resembling ground glass. In a few instances the granular change maintained the striated arrangement, but in the majority it was generally diffused through the fibres. A very few fibres exhibited well-marked transverse striation. There was a good deal of fat in fine globules around and be-

tween the fibres, but none within the sarcolemma. Portions of the right pectoralis major, of the intercostal muscles, of the rectus abdominis, and of the muscles of the calf of the leg, presented in a greater or less degree precisely the same appearances as those exhibited by the extensors of the forearms.

Parts of the diaphragm also presented the same granular degeneration, but the proportion of healthy fibres was greater.

Portions taken from the dorsal muscles were found to be perfectly healthy, no granular fibres being detected by the most careful examination.

Heart.—By far the larger number of fibres in the wall of the right ventricle had undergone granular change similar to that which had taken place in the voluntary muscles. In the wall of the left ventricle there was a much larger proportion of healthy fibres than in that of the right ventricle, and a few fibres only presented the general diffuse granular change. There was a good deal of free fat.

Portions of the spinal cord have been examined by Dr. Cayley and Mr. Kesteven. The latter gentleman has favoured me with the subjoined report:—

'The multipolar cells of both anterior and posterior horns, and of the posterior vesicular column, are altered by deposition of pigment granules. Their nuclei are enlarged and filled also with pigment granules, as are, furthermore, their nucleoli. The nerve processes sent off from the cells retain for a short distance the same granular aspect. The central canal is choked with non-nucleated corpuscles of various sizes and with *débris* of its epithelium. The spaces through which the arteries pass up by the sides of the central canal are much enlarged by loss of substance of the transverse commissure.'

Remarks.—The first question likely to arise in reference to the foregoing case is, whether the muscular atrophy was a primary or a secondary disease; and the next is, whether it was the cause of death.

Both these questions may be answered undoubtingly in the affirmative.

With respect to the first, muscular atrophy does, it is true, sometimes, though rarely, occur as a sequel to other diseases. In my comments on the case published in the last volume of the Society's Transactions, I briefly referred to a case under my care, in which atrophy of certain muscles was one of the sequelæ of a severe attack of typhoid

DESCRIPTION OF PLATE I.

The figures opposite, which illustrate Dr. Greenhow's case of Progressive Muscular Atrophy, represent the microscopical appearances of muscular fibres taken from the diaphragm, from the extensor muscles of the forearm, from the dorsal muscles, and from the heart.

From a drawing by Mr. Sidney Coupland.

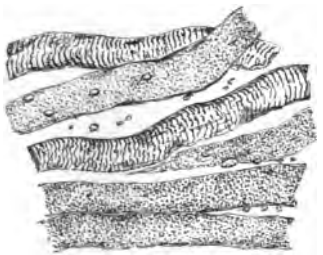
Fig. 1. Shows, muscular fibres from the diaphragm in different stages of granular degeneration.

Fig. 2. Muscular fibres from the extensors of the right forearm in different stages of granular degeneration.

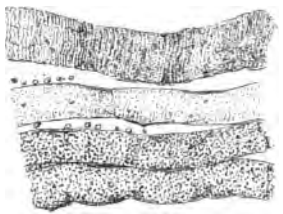
Fig. 3. Muscular fibres from the dorsal muscles almost or quite normal.

Fig. 4. *a*. Muscular fibres from the right ventricle of the heart in different stages of granular degeneration.

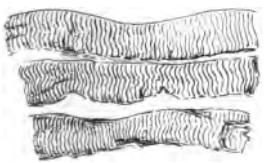
Fig. 4. *b*. Muscular fibres from the left ventricle, some of them apparently normal, others in a state of granular degeneration.



1. From Diaphragm Fibres meas $\frac{1}{500}$" to $\frac{1}{600}$
(Drawn at 250 diam.-reduced to 1/5)

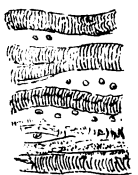


2. From Extensors of R. Forearm



3. From Dorsal Muscles.

a



b

4. From Heart a. R. Ventricle
Fibres about $\frac{1}{1500}$" in diam. b. L. " S. Coupland del.

fever; and, since then, I have seen a patient with very marked atrophy of the muscles of the left shoulder, which appeared to have resulted from an attack of rheumatic fever. But in both those cases the muscular atrophy was partial, and not general; and moreover, in the present case, no illness of any kind had preceded the atrophy. When the patient first came under my care, I did indeed hesitate much respecting the nature of the case, and even doubted whether the illness might not turn out to be either typhoid or rheumatic fever; but it almost immediately became apparent to me that it was neither the one nor the other of these diseases; and the peculiar manner in which the patient moved her arms, together with the history of the illness, led me, on the second day after her admission, to form the diagnosis of acute muscular atrophy, which was eventually found to be correct.

Neither, with respect to the second question, do I entertain the slightest doubt that the muscular atrophy was the efficient cause of death. No other adequate cause was discovered at the post-mortem examination. The bronchitis would not in itself have been dangerous to any healthy person, although, acting in conjunction with the inability to clear the lungs by coughing, consequent on the atrophy of the muscles of respiration, it was certainly one factor in the causation of death. This mode of death appears indeed to be a very common one in cases of this class, and the case which I brought under the notice of the Society last year terminated in the same manner.*

Muscular atrophy has hitherto been described as a chronic disease of very slow progress. Dr. Roberts, in his classic treatise on Wasting Palsy—which is the name he applies to muscular atrophy—says that it 'is essentially a chronic disease; it runs its course slowly; we measure its advance not by days and weeks, but by months and years. Its duration is found to vary through a very considerable range. Some cases complete their history in six or eight months; others linger through many years.' † And he substantially reiterates this statement in his more recent contribution on the subject to Dr. Russell Reynolds' 'System of Medicine.' ‡ Dr. Duchenne, also, in the last edition of his work, 'De l'Électrisation localisée,' says that the most rapid case he

* 'Clinical Society's Transactions,' vol. v. p. 210.

† An Essay on Wasting Palsy (Cruveilhier's Atrophy), by William Roberts, M.D., &c. (London, 1858), p. 127.

‡ 'A System of Medicine,' edited by Russell Reynolds, M.D., &c. Vol. ii. p. 340.

has seen ran a course of two years' duration.* The cases recorded by Dr. Meryon in the 'Medico-Chirurgical Transactions' † were likewise very slow in their course; and a very advanced case still under my own care had already made great progress when the patient first came under my observation, more than three years ago. The case I have now read to the Society is therefore certainly a very exceptional one; in fact I have failed to find any similarly rapid or acute case on record.

It will have been observed that the illness, from its commencement to its close, was of less than five weeks' duration, and that the patient was only confined to bed for seventeen or eighteen days. She continued her work as a domestic servant until the latter part of January, and her death took place on February 25. The atrophy progressed so rapidly that, whereas on the day after her admission into the hospital the patient was still able to get out of bed and to stretch out her hand, though in an awkward manner, she became in the course of a very few days so helpless that she lay perfectly still in one position, and before her death became unable even to move her hand on the surface of the bed.

Moreover, the symptoms of the illness were definitely acute; there was delirium, a very frequent pulse and a constantly, though moderately, elevated temperature; and in these respects also the case differed from all others of the same class that I have been able to find recorded. Dr. Duchenne distinctly states that he has not seen even a single case attended by the slightest fever.

In reference to this latter point, it is worthy of remark, that the illness of the patient's sister was also stated to have commenced suddenly, and to have manifested, in the early stage, acute symptoms which at first rendered it doubtful to my mind whether the primary illness had not been rheumatic fever. After close consideration I arrived at the conclusion that the pains which had attended the onset of the illness had not been rheumatic, but were due to the disease in the muscles; a conclusion now borne out by the fact that the pains experienced by the second sister were certainly not rheumatic pains, and confirmed by the statement of her brother-in-law that his wife's illness had commenced in exactly the same manner as her sister's.

* 'De l'Électrisation localisée.' 3me éd. 1872, vol. i. p. 517.
† 'Med.-Chirurg. Trans.' vol. xxxv. p. 73, and vol. xlix. p. 45.

Other points of resemblance in the two cases, which serve to identify them as of the same nature, are the peculiar and rare condition of the urine, the excessive wasting and consequent total loss of power in the extensor muscles of the limbs, and the serious implication of the respiratory muscles in the atrophic process. Moreover, as I have already said, the efficient cause of death in both patients was loss of power in the respiratory muscles, and the fatal termination of the last case was no doubt greatly accelerated by the implication of the diaphragm in the process of degeneration. It is in fact obvious that there was in these women, as there has been in many other of the recorded cases, a constitutional and family tendency to the disease; and it is not unworthy of note, in this view of the subject, that the morbid process, although it ran a much more rapid course in the case of the second sister, became developed in both sisters at about the same age.

The morbid changes observed, in the present case, in the affected muscles under the microscope, only differed from those of the case I described last year in being less advanced; but they were well marked, and were the same as those which have been described by other observers as granular degeneration.

The most important point to notice with reference to the morbid changes observed in the present case is, that the muscular tissue of the heart was found to have undergone granular degeneration analogous to that found in the voluntary muscles. So far as I can ascertain, this has not hitherto been observed in any case of muscular atrophy. Neither Duchenne nor Jaccond appear to have seen it; and Dr. Roberts, after referring to the special liability of the heart to suffer from fatty degeneration, expresses his surprise that repeated and most minute researches have only proved its complete immunity, in cases of wasting palsy, from 'the anatomical degradation which had befallen the voluntary muscles.'*

I have not brought forward the present case, any more than the one I recorded last year, as throwing any new light upon the true pathology of this obscure disease. Whether muscular atrophy be, as Dr. Meryon supposes, a disease of the muscles themselves, or whether it be, as many eminent pathologists believe, a disease of the nervous system, still remains in my mind an undetermined question. One objection

* *Loc. cit.*, p. 148.

to ranking it among nervous diseases was long ago put somewhat forcibly by Sir Charles Bell. He said that 'a disease of the brain, or a disease in the course of the nerves, must influence the whole limb, or the whole of that portion of it to which the nerve or nerves are distributed.' This objection still appears to be valid against the nerve theory in both my cases, as well as in many of those which have been recorded by other observers. For not only have some of the muscles of a limb been found nearly, or altogether, free from the atrophy which has attacked adjoining muscles, but even some of the fibres of a particular muscle have appeared quite sound, whilst other fibres, lying side by side with them, have undergone granular degeneration. Moreover, those observers who believe that they have found the true cause of the disease in the nerves or nerve-centres, are by no means agreed as to the particular morbid condition which is associated with it.

Whilst, therefore, I am not prepared to dispute the view of the probable origin of the disease in the nervous system, I am, on the other hand, of opinion that there is not, as yet, sufficiently conclusive evidence in its favour to warrant our overlooking the difficulties in the way of its acceptance.

XXXV.—*Two unusual Cases of Elephantiasis Arabum (Dermatolysis).* By Dr. GUSTAVUS FRITSCHE, *Physician to the Hospital in Czenstochowa, in Poland. Read May* 9, 1873.

I HAVE had the opportunity of seeing two very curious and unusual cases of elephantiasis arabum, and I think the drawings and a short description of them will not be uninteresting to the profession in England.

The first of them (fig. 1) I saw on the Island of Madeira in the winter of 1862–63. After having spent the whole winter on this island, without having seen anything interesting from the medical point of view, I happened to meet, on the eve of my departure for England, a man whose right side of the face was subject to the *elephantic transformation.* He was a beggar, and his lucrative profession consisted in exposing his monstrous deformity to the eyes of the passers-by, who gave him money only to get rid as soon as possible of such a horrible sight. His name was M. D., he was 26 years of age, and was born in Funchal, the capital

of the island). He possessed dark auburn hair, was of middle size, and of a strong constitution. His chest, muscles, and panniculus adiposus were well developed. His complexion, like most of his compatriots, was dark and nearly sallow. I did not perceive any scrofulous predisposition about him, or traces of the small-pox, so commonly met with amongst the inhabitants, on account of the little care they take to get vaccinated. In general his health was excellent.

The whole right side of the face resembled an empty hanging bag. On touching it with the hand, one could easily recognise that it did not contain anything; it was no growth which in its progress had weighed the skin down, but consisted of a remarkable hypertrophy of the skin and the cellular tissue. The length of this bag, measured from the under border of the under jaw, was $2\frac{1}{2}$ English inches. The appearance of the skin externally on the right side was quite similar to the left. The right nostril was very thick, elongated, and pendulous. The opening of the right eye (as is easily seen in the drawing) was on the same level with the opening of the nose. On lifting up a thick and lengthened eyelid, a singular aspect presented itself: the eyeball was atrophied, and changed so as not to be easily recognised again, and it hung from the optic nerve, proportionately lengthened and thinned; in fact, the eyeball looked like an apple hanging on its pedicle. The optic nerve was so much lengthened that this transformed eyeball was placed nearly in the very opening of the eyelid: of course the man was blind of this eye. The left eye was perfectly normal. The right corner of the mouth was very much drawn down, and this is also seen in the drawing. The action of opening it, and eating, were executed with the greatest difficulty; his speech was unintelligible. The right helix of the ear was enlarged, and hung loosely down. Lastly, the tongue of the patient was in a very interesting condition; its right side was remarkably enlarged in all its dimensions, strikingly longer, thicker, and larger than the other; the mucous membrane was on this side thicker: and the papillæ of all kinds were much hypertrophied. The bones of the head, as well as the parts covering it, and all other organs in the body were perfectly symmetrical.

Neither his parents nor his numerous brothers and sisters were subjects of any disease like his. Three of his children, born from a healthy wife, were in good health. The man assured me he had this growth from his childhood; at the

beginning it was of lesser dimensions, and only assumed in course of time larger proportions. On my repeated demands whether he ever had erysipelas of the face, or any other disease of the skin, he always and decidedly gave a negative answer.

Elephantiasis arabum is a well-known disease, and occurs in certain countries very often. English physicians in India and other hot countries have opportunities of seeing it often, and much more developed than the case just described; but I believe a specimen of such dimensions as those of the case now described, occurring in this place, has been until now unknown in medical literature. The only case which would seem similar to our Portuguese is that of a girl, about 19 or 20 years of age, I saw in 1861 whilst studying medicine in the clinical establishment of Professor Friedreich in Heidelberg. She had had several attacks of erysipelas on the right side of the face, and consequently the skin had become on this side a little thicker than on the left. The difference was evident, although not in such a high degree as in our case. The curious resemblance of the two cases was, that this girl had also the right side of the tongue remarkably enlarged. She died the following winter of typhus fever in the said clinical establishment. A minute description of this case, together with an engraving of the girl's face and tongue, was inserted by Professor Friedreich in one of the numbers of 'Virchow's Archiv' in 1862.

The second case (*see cut*, p. 163) concerned a young girl whom I have seen and upon whom I operated in the provincial Polish town in which I am residing. On May 1, 1872, came to the hospital, Salomea Dupiak, 25 years of age, a peasant's daughter, unmarried. She was middle-sized, her constitution was strong, the muscles, bones, and panniculus adiposus very well developed. The disease, which everybody can easily recognise as elephantiasis arabum, first appeared when she was in her 8th year. There was in the beginning a very small outgrowth on the skin of the face, and another one about the right clavicula (nothing else than *fibroma molluscum*); these growths both began to grow, and reached very soon such dimensions that they were very troublesome to the patient, the more so as she (a peasant's daughter) was occupied with hard work in the field.

The peasants in our country are very ignorant, and have no confidence in qualified physicians. There are lots of shepherds, old wives, and quacks who occupy themselves

with medical practice. The parents of our patient, following the advice of such people, rubbed the growth with a hand of a virgin who had just died, rubbed it with a placenta of a first-born child, made pilgrimages to holy cloisters, etc., but at last, when they saw that all those remedies did not help, they came to me begging relief for the sufferings of their daughter.

From the right edge of the under jaw there hung folds of the skin like empty bags to the number of ten or eleven. Each of them was separated from the other, and had its own base and its apex. The skin of those folds was thicker than normal (especially on the inferior part of every fold), and the holes of the sweat canals were so wide that they are

even visible in the drawing. On places where those folds laid close to each other, there were redness and many excoriations. The lymphatic gland, which was covered by the growth, was much enlarged, and very hard. Virchow says ('Die krankhaften Geschwülste,' Berlin, 1863, vol. i. p. 312) that always in the neighbourhood of an elephantic tumour the lymphatic glands are enlarged, and that this enlargement proceeds in the beginning from an hyperplasy of the elements of the gland; but afterwards they undergo a fibroid degeneration. It seems to be certain that here the latter is the case, as the disease lasted for seventeen years. Besides this, all glands in the body were, as far as they could have been detected, normal.

The tumour on the chest consisted also of a fold of the skin: it was much larger than the ones on the neck, and had a wide basis and a smaller apex. The basis was adherent to the chest at the top of the clavicle, and the whole was so very movable that it could have been put very easily on the shoulder of the patient, like a piece of cloth. The breadth of the tumour at the basis amounted to 8 English inches, its free hanging top 4 inches, and its length 10½ inches. The skin of this tumour was much thicker than the one on the whole body, and the openings of the sweat canals were, like the ones of the neck growth, very wide. The internal part of the growth, which was in contact with the body, was covered with excoriations, very painful to the patient.

Besides those large tumours, the body of the patient was covered with small growths of the sizes of hazels and walnuts.

The next day, after the girl was admitted to the hospital, I operated upon the large tumour, which was hanging from the chest. The operation was very simple: I made a long incision into the skin on the outside, and another one on the inside of the tumour, at the place where it was united with the chest, made three ligatures of large arteries which were cut, and united the edges of the wound with eleven sutures. I proposed to operate upon the tumours of the neck after the wound of the chest should be healed.

The patient remained six weeks in the hospital, and left it in perfectly good health, and without the troublesome tumour of the chest. She promised to come again to have the remaining growths removed, but did not appear till recently.

The operated tumour was sent to the professor of patho-

logical anatomy in the University of Warsaw, Brodowski, who made a microscopical examination of it, and found that it consisted of a very loose cellular tissue.

Note by Dr. Tilbury Fox.

The above cases are very interesting specimens, so far as the skin is concerned, of what English dermatologists would term *Dermatolysis* (Wilson), or Pachydermatocele (Valentin Mott). Dr. Fritsche would perhaps not raise any objection to the limitation of the term elephantiasis arabum, to the hyperpheric enlargement of the connective tissue of the lower limb, or the scrotum, and more rarely other parts of the body, which results from inflammation of the lymphatics, induced by climatic (and probably malarial) influences; as in the Barbadoes leg, or the Egyptian sarcocele. Hypertrophic growths of the connective tissue sometimes result from attacks of erysipelas which has been accompanied by implication of the lymphatics; and I have a woman at present under observation whose cheeks, lips, and nose are greatly enlarged and hypertrophied, as the result of an attack of erysipelas.

In cases like those of Dr. Fritsche, the hyperplasia is idiopathic, and not secondary to any lymphatic, venous, or arterial inflammation, whilst the growth is much more lax than in the two other classes of cases, and it hangs in loose pendulous folds. The disease originates in fact in an abnormal growth or perverse behaviour of the cellular tissue. It is a primary, idiopathic, or pure hyperplasia.

Dr. Fritsche has given the clinical features of these cases with very great clearness, and they contribute a valuable and interesting addition to our knowledge of the subject.

In a letter I subsequently received from Dr. Fritsche, he says: 'As to the name Pachydermatocele, I cannot find it in Virchow's clinical work ('Die krankhaften Geschwülste'), where all forms of elephantiasis are described very minutely; but if you call the idiopathic hyperplasia of the cellular tissue so, it is certainly the right name for my case.'

The hypertrophy of the parts of the right side of the face almost *en masse*, occurring in conjunction with the skin changes in Case I., are very interesting; and not less so is the result of the operative procedure adopted in Case II. with such success by Dr. Fritsche.

XXXVI.—*A Nævus of the Orbitar Cellular Tissue treated by Ligature and the actual Cautery.* By W. Spencer Watson. *Read May* 9, 1873.

ALICE C., æt. 8 months, was brought to the Central London Ophthalmic Hospital in April 1872, with a tumour involving the eyelids and orbitar cellular tissue of the left side, noticed soon after birth and increasing gradually in extent ever since.

The inner half of both eyelids was swollen to such an extent that the eye was kept partly closed. This enlargement was limited to the inner half of the lids and to the parts lying between them and the surrounding bones: so that it was evident that the orbitar cellular tissue was also involved. The skin surface of this swelling was not discoloured, but was smooth and natural in appearance, with a few veins standing out very prominently whenever the child cried violently. When pressure was made it was found to be soft, and its size was reduced on making further pressure into the hollow lying between the nose and the eyeball. The eye itself was slightly displaced towards the temporal side, but not at all protruded. The conjunctival aspect of the swelling was of a bright crimson and thrown into folds, which presented themselves when the lids were forcibly separated at the inner canthus. (*Vide woodcut on opposite page.*)

Hoping to be able to strangulate this subcutaneous nævus by the ligature, I passed a thread deeply into it from the conjunctival surface upwards and inwards, and a second across it in the transverse direction, the ends of these threads being tied so as to divide the included tissue into two separate halves, and strangulate the principal bulk of the growth. The portion lining the lower lid, and extending backwards from this point, was then treated in the same way.

This operation was followed by a slight reduction in the size of the growth; but on June 20 (two months after this operation) the tumour was again increasing in size, especially in the part corresponding to the upper lid.

I therefore again employed the ligature in the following manner:

A curved needle, armed with a double silk thread, was passed through the upper eyelid from a point just below the

inner end of the eyebrow to the deepest portion of the orbit it would reach, so as to allow it to emerge at the conjunctival aspect of the eyelid. The two threads were then liberated from the needle, and each passed separately round half of the enlarged upper lid subcutaneously, their point of emergence being the same as that at which the needle had first entered. Each half was then strangulated by a separate *subcutaneous*

Intra-orbitar Nævus.

noose or ligature, to which the ends were tied over a quill-formed roll of sticking plaster, placed over the points of entrance and emergence of the needle, just below the eyebrow. In a few days the strangulating threads had become slack, and they were accordingly tightened by winding them up on the roll of sticking plaster, and refixing their ends. This was

again done a few days later, and the threads ultimately cut their way through on the fourteenth day after being applied.

On July 4 the upper lid feels almost solid to the touch, but is as prominent as ever.

July 11.—The tumour is partially consolidated, though the superficial veins of the eyelid are very large and tortuous. The conjunctival aspect is still nævoid in character, and the swelling of the orbit as great as ever, except at the point from which the ligatures came away, marked by a depressed cicatrix, and extending deeply from this point a line of hardened tissue.

The eyeball having been protected by a spatula, the needle cautery was applied to the prominent crimson folds of conjunctiva at the inner canthus, several punctures being made in them of about one-third of an inch in depth towards the nose.

During the next month there was some amount of shrinking of the tumour, but by October 24 it was again increasing in size; and the consolidation noticed after the last operation only occupied a very limited portion of the tumour, the principal bulk of which had now the compressible nævoid character it at first presented.

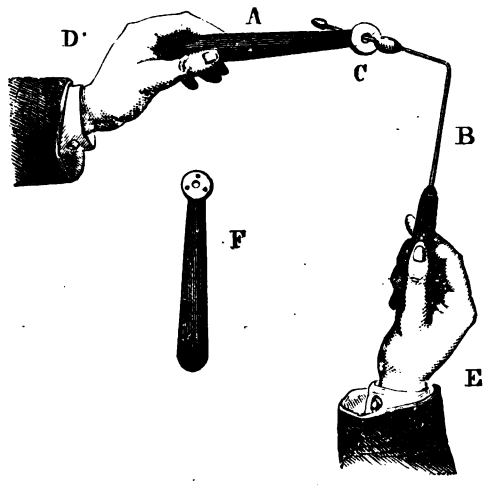
It now occurred to me that the ligature had failed to cause obliteration of the vascular network from the difficulty of reaching its deeper portion; and hence the continuity of the growth with its supplying vessels remained unbroken. I therefore determined to use the actual cautery, heated by galvanism; and Messrs. Krolme and Sesemann prepared a needle-shaped platinum instrument for this purpose.

This pointed cautery was thrust, while red hot, through the skin of the eyelid at five different points, in a vertical direction, parallel with the inner wall of the orbit. A puncture was also made at one point, from the conjunctival aspect, upwards and inwards, the eyeball being protected during the application of the cautery by a horn spatula, held on its inner side.

Considerable pain and swelling followed this operation, but after the healing of the sinuses caused by the cautery very little permanent improvement in the condition of the orbit was observable.

On January 30, 1873, the eyelids were becoming more prominent, and the veins more full and tortuous in the skin covering them. I now employed a cautery iron of a different shape (the cautery iron exhibited), and thrust it deeply into

the orbit at two points from the skin surface, and at one point between the eyelids at the inner canthus. The depth of one of the punctures was in one instance exactly an inch, in the other two cases about three-quarters of an inch.



A. Shield with central aperture.
B. Cautery iron.
F. Shield with under surface, lined with ivory.

This operation was followed by great swelling of the whole of the left side of the face, and especially of the orbitar tissues and the eyelids. Great general constitutional disturbance followed, and the tracks of the cautery irons suppurated very freely. In the course of the next two months, however, there was a gradual reduction of swelling, and evident consolidation of the tumour has taken place; the inner fourth of the eyelids have become united by cicatrix, and there is a nebulous condition of the lower and inner quadrant of the cornea. The present state of the orbit is represented in the accompanying drawing, taken on March 30, 1873. I propose to divide the united edges of the eyelids by a subsequent operation.

Remarks.—Having searched through all the recorded cases of nævus, or erectile venous tumours of the orbit, it appears that surgeons have been very unwilling to meddle with them by operation.

Mr. Demarquay records cases in which extirpation was

performed, one by M. Vignerie, two by M. Dieulafoy, and one by M. Carron du Villards; and my friend Mr. Lawson has, I believe, removed a nævus by operation in this manner. There is, however, great danger of severe hæmorrhage in such a proceeding, and there remained the plan of injecting perchloride of iron, or the actual cautery. I had already tried the ligature and failed, in consequence of the difficulty of reaching the deeper part of the growth with the needle, however curved. I had considered the desirability of the injection of perchloride of iron, but was deterred by the circumstance that death by embolism has followed this method of operating in at least three cases.

The actual cautery seemed to me free from the objections which could be brought against the above-mentioned methods, and the galvanic cautery offered the most convenient form of cautery for the purpose.

The cautery iron used subsequently, though far more effectual in its results, was by no means so convenient for manipulating at the time of the operation. It would be well in any similar case to have *two irons* ready, one being kept heated while the first was in use, for the point soon loses its heat, and requires to be again made red hot before it can be used a second time.

If the platinum wire could be extended in length, without losing its capability of being heated by the galvanic current, I should much prefer the galvanic cautery for use in another case of the kind.

The question will arise in many minds whether it is necessary or desirable to interfere with this disease at all by operation, and whether it might not be well to give it a chance of getting well by itself, this having been known to occur in one or two instances.

I should certainly be inclined to leave a non-progressive nævus alone as long as possible; but in this case there was evident increase, and in this region an increasing tumour gives rise to great disfigurement, and to impairment or loss of sight.

Velpeau mentions a case in which eight years after he had first seen the patient the tumour was decidedly decreasing.

The only operation in such cases he would advise would be acupuncture, with laceration of the meshes of the tumour; and when within reach, the use of multiple setons, or of pins with twisted ligatures, as in the operation for hare-lip.

Acupuncture by itself would, I think, have been of very little use in my case, and I have already pointed out that ligatures failed on account of the great depth of the tumour. Setons would have been equally inapplicable for the same reason.

XXXVII.—*Two Cases illustrating the Curative Action of Ipecacuanha in Diarrhœa.* By JOHN THOROWGOOD, M.D. *Read May* 9, 1873.

WILLIAM B., labourer, æt. 20, had recovered from an attack of typhoid fever under the care of my former colleague, Dr. Frederick Simms, at the West London Hospital.

January 16, 1872, he was transferred to my care, his complete convalescence being prevented by recurrence of diarrhœa. After a while he was so far improved as to leave the hospital during March 1872.

January 1, 1873.—I found W. B. again in the wards, having been sent in by Dr. Ferrier, under whose care he had been as an out-patient with diarrhœa.

The two House Surgeons and I watched this patient carefully, and for several weeks he had an average of ten or twelve liquid motions in the twenty-four hours, usually more or less mixed with blood.

He had no marked emaciation, took food well, had a clean tongue, pulse 88 to 100, temperature 99°. No sickness, no sweating at night. The abdomen was swelled, tense, tender on left side; no sign of hepatic or cardiac disease. Urine loaded with pale lithates, but free from albumen. There had been a little broncho-pneumonia at base of right lung.

Treatment consisted in rest in bed, milk diet, and a mixture of chalk with bismuth. After some time, the diarrhœa being in no way mitigated, I gave him two drops, three times a day, of the liquor arsenicalis: this made him worse, and was therefore discontinued on January 7. At this time the motions were quite liquid, and red from uniform admixture of blood. Nitrate of silver with opium given in a pill, and a mixture with Decoct. hæmatoxyli, were tried without effect.

14.—Abdomen much swelled and intestines full of liquid.

A more solid diet was given, and every night an enema with twenty minims of Tr. opii.

No relief from this. Pulse 100, temperature 99°. Hydrargyrum c. creta c. Pulv. ipecac. co. was given in powder and Indian Bael as a mixture: no change resulted worth noting in the symptoms.

During the first week in February he got:

Pulv. ipecac. gr. ij., Pulv. tragac. gr. v.; pulvis ter die sumen dus.

He bore this dose very well, and in a few days I raised the dose of the Pulv. ipecac. to gr. v.: he took this regularly, with no other medicine, for fourteen days. Gradually the motions, from being red with blood, became of a drab colour, and more consistent. By February 26 he was passing formed, consistent motions, the diarrhœa had ceased, and he was discharged with a supply of the powders, and orders to attend as an out-patient if there was any return of the diarrhœa. I have not seen him again.

Case II.

J. N., an intelligent young man, by trade a bricklayer, came as an out-patient to me at the West London Hospital.

For six years he had been ill with diarrhœa, and seldom had fewer than six motions per day, very often passing blood, and at times having to lie up altogether. Could not attribute the attack to anything further than exposure to wet in his work.

Skin was cool, tongue moist, appetite very poor, no sickness, pain and tenderness along edge of liver. Chest healthy. Patient informed me he had taken large quantities of medicine; sometimes it was very acid, at other times he had had white mixtures given him: could not say that any particular mixture had done much good. Lately he has had no medicine. I ordered him:

Two grains of Pulv. ipecac., with five grains of the Pulv. tragacanth. co. ter die. In one week he came to me again, and told me that for the last three days his bowels had acted regularly once daily in a formed motion; he felt better than he had felt any day for the past six years.

For fourteen days he continued the powders, the bowels continuing to act once daily with regularity, he at the same time paying due attention to diet, and avoiding all fermented liquors.

Under exposure to wet he had a slight return of the diarrhœa, and I gave him Extract of Indian Bael, and then Liquor ferri pernitratis: neither of these remedies had any effect, and he requested me to let him have the powders again. I did so, and in a week he was quite well, and I have every reason to believe has remained so for the last three months.

My object in bringing these two cases of no very rare disease before this Society is to illustrate certain points in Therapeutics.

1. The cases were very chronic, and I believe we can test actual drug therapeutics better in chronic disease, tending to perpetuate itself, than we can in an acute disease, the nature of which may be to issue in recovery.

2. The history I have given will, I trust, show that the patients were not cured, as people with dysentery perhaps sometimes are, by simply leaving off a rather copious and multifarious dosing with physic.

3. The simplicity of the prescription I would also call attention to. The compound tragacanth powder could hardly claim much of the curative effect; and I would like to enquire of the Fellows of this Society whether they cannot, from their experience, call up cases of very striking therapeutic effects at times produced by one remedy given pure, simple, and uncombined. Certain it must be that in studying the effect of a drug it ought to be given free from combination.

In Case I. the Pulv. ipecac. co. seemed to have no curative effect.

4. The one other point for notice is the tolerance of the medicine: surely five grains of Pulv. ipecac. three times a day for a week would produce nausea in a healthy man. In neither of my two cases was any sickness or nausea caused by the treatment; so in practice it seems right to give the ipecac. freely in those cases where we look for its specific action as a curative agent.

XXXVIII.—*Case of Excision of the Hip-Joint, after Sayre's Method.* By JOHN CROFT. *Read May* 23, 1873.

MANY members will remember, I dare say, when Dr. Sayre, of New York, was here in July 1871 he gave a very interesting lecture at the Children's Hospital, Great Ormond Street, on the treatment of hip-joint disease. He stated that, after sub-periosteal exsection of the head of the femur, 'by keeping the limb extended, if you will peel off the periosteum in the way I have described, the bone will be regenerated, and be as good as ever. By extending it sufficiently, you make the limb as long as before. When you have got the bone regenerated, and before consolidation takes place, you commence passive movements, and in that way obtain an artificial joint, as in the case of an ununited fracture. By constant movements you prevent anchylosis; and as the muscles have all been carried off with their insertion at the periosteum, you have certainly got the normal position from them to be moved again.' He refers to a case illustrative of this—a case in which 4½ inches of femur were removed, and the acetabulum was perforated. He stated that that boy could bend his leg at right angles; he could kick higher than his forehead, and he won a pair of silver skates in a race on the ice. 'The leg is almost exactly of the same length as the other, and the motions are perfect.'

He also stated that he had operated forty times, and that thirty of his patients were walking about with excellent movement at the joint. His method of operating was described in the following words, quoted from the 'British Medical Journal,' vol. ii. 1871, p. 882:

'By making a small incision above the troch. major, midway between it and the crest of the ilium, over the top of the acetabulum—a semilunar incision, the belly of it covering the posterior part of the troch. major, going straight down to the bone through the periosteum. You then pull the soft tissues on one side, and, taking a small but strong curved bistoury, go as far round the bone on each side as you can reach, at right angles to your first incision, so as to divide the periosteum completely; you then take a strong, firm periosteal elevator, with a large handle, and the end slightly

curved, and go into this little triangle; you *peel off* the periosteum, and, as a matter of course, all the muscles with it; by opening the joint thoroughly, and turning the head of the bone out, the periosteum is peeled off from the inner portion; you then saw off the bone above the troch. minor.'

In consequence of what was stated in that lecture, I carried out his method of operating in the case I propose showing to you this evening. In one respect the operation has been followed by a remarkable result, and in that respect the case bears out part of Dr. Sayre's statement.

C. B., æt. 7, was first brought to me as an out-patient at St. Thomas's Hospital, February 6, 1871. He was then suffering from the symptoms of the early stage of hip disease —lameness, pain, and spasms at night, &c. The mother stated that the boy fell on the hip in July 1870, and that in January 1871 he fell again, but with the right leg forcibly abducted. Soon afterwards he became lame and feverish. He was a delicate-looking boy, dark hair and eyes.

His mother was in good health, but she said that one of her sisters had died of consumption. His father had died of rheumatic gout.

He became gradually worse, and a large abscess formed on the outer side of the thigh below the joint.

September 11.—Seven months after I first saw him he was admitted into the hospital, and the collection of pus was incised.

November 22.—Two months and ten days from admission he was in the following condition: The hip was swollen, and on the outer side, about 6 inches below the anterior superior spine, a free discharge of pus was taking place from the incision. Movement caused pain in the joint. The head of the femur was not dislocated, though the limb measured about 1 inch less than the opposite. Exposed bone was not detected by the probe. He had suffered from bad nights, and was very thin. On that day, November 22, I proceeded to excision of the joint. I made a slightly curved incision 3 inches long, so that the centre of the wound was opposite the top of the great trochanter. The incision was made down to the bone at once, dividing the periosteum. The soft parts were then turned aside, and the periosteum cut across at right angles to the first incision, just below the level of the small trochanter. With the bistoury the transverse division of the periosteum was carried round all but the inner and back part of the bone. Then, with a periosteal

elevator, like Dr. Sayre's, I peeled back the periosteum and muscular attachments from the top of the shaft and the neck of the femur. I had to use the knife in detaching the cartilage from the great trochanter. Peeling up the periosteum from the other parts was, however, an easy process. I next passed a chain saw round the bone at the transverse division of the periosteum, and sawed off the top of the femur, just below the small trochanter, splintering the bone in the operation. The detached mass was turned out by means of the elevator.

On examining the acetabulum, which was very open, the finger detected here and there some loose pieces of soft covered bone imbedded in the floor of the cavity. By the finger and forceps five sequestra were pulled out. They varied in size from a small pea to a large one. The portion of femur removed consisted of the head, neck, and 2 inches of the shaft, measuring from the top of the trochanter major. The cartilage, synovial membrane, and articular osseous lamella could not be recognised; granulations and new connective tissue had taken their places, and formed a covering to the capitellum. The bony part of it was slightly diminished in bulk, but not anywhere carious. A triangular piece of the head was cut out, that the extent of disease might be seen.

The wound was partly closed by sutures; after the operation the limb was kept at rest, and extended by means of a bracketted long outside splint, or extension by weights. The course of the case was favourable. Four weeks after the operation, gentle passive motion was commenced. In the following July, about seven months after the operation, he was able to wear a boot and iron support, and was sent to the Margate Infirmary. Sinuses remained open until the end of the year, when the last finally closed. At the present time, now eighteen months since the operation, he is in good health and spirits, and can run about. As regards the movements of the hip, he can slightly flex and extend the thigh upon the pelvis, though the chief movement is of the pelvis upon the spine. He cannot rotate or abduct the limb. In respect of movement, therefore, he has not been a gainer by the operation as I performed it.

The limb appears shorter than the opposite one. In the erect position, the heel is raised 2 inches from the floor. When lying straight on a table the right leg measures, from the anterior superior spine to the top of the malleolus, 22½

inches, and only *one inch* less than the sound limb. Here comes the interesting point in the case: *the right and left femurs measure all but exactly the same, viz.* 11¾ *inches.* This certainly seems remarkable, for, as seen by the parts removed, the top of the diseased bone was sawn off just below the small trochanter. From the crest of the ilium to the top of the shaft on the right side there are 3 inches, and from the crest of the ilium to the top of the trochanter on the healthy side there are 4 inches. Measuring the obliquity of the pelvis, the anterior superior spine of the ilium on the side operated on is 1 inch above the level of a horizontal line drawn from the similar point on the opposite side.

It would seem, therefore, that the difference in length is due to the approximation of the top of the shaft to the crest of the ilium, and to the obliquity of the pelvis. I ask the members who are interested in this question to satisfy themselves on this head. For if it is a fact that by Dr. Sayre's sub-periosteal method of excision at the joint the length of the femur may be preserved, there is an undoubted advantage in that plan of operating. Dr. Sayre's account of the feats performed by some of his patients might lead one to hope that, by preserving the muscular attachments to the periosteum, a greater range of movement in each direction might have been obtained. Although the case before us fails to illustrate any superiority in this matter of range of movement, I think that to the sub-periosteal method of operating is *due* the important fact in the case, that the diseased femur, from which 2 inches of shaft were sawn off in November 1871, is *now almost*, if not quite, as long as the healthy femur of the opposite limb.*

* In the course of the debate that ensued, the exactness of Mr. Croft's measurements was disputed. The president therefore requested Mr. Callender and Mr. Christopher Heath, who were present, to measure the limb. This they did, and their measurements entirely confirmed those made by Mr. Croft and published above.

XXXIX.—*On Traumatic Rupture of the Tympanic Membrane.* By W. B. Dalby. *Read May* 23, 1873.

THE chief interest possessed by any case of traumatic rupture of the tympanic membrane, consists in the answers to the two questions—Will the perforation thus caused heal? And, to what degree will the hearing be permanently impaired?

In the present short communication, an abstract of five cases are given, and five others are mentioned as having come under notice.

A review of them may in some measure, perhaps, assist in the direction of estimating the probable termination of such accidents.

Case I.

M. A. H., a woman, æt. 40, came to St. George's Hospital on April 4, 1872. Five days before she was picking the left ear with a pin; the pin slipped, giving her considerable pain at the time. Hearing very much impaired for conversation; a watch heard at 3 inches from the ear. There was a thin discharge from the ear; a small circular perforation in the posterior half of the tympanic membrane. Subsequently, the discharge was thick and purulent. When seen on December 12 the perforation had healed. This had not taken place one month before, so that how long the healing process had occupied cannot be stated.

Hearing the same as when first seen. There was no scar visible, and the whole membrane was very opaque, and evidently much thickened.

Case II.

L. P., a woman, æt. 33, attended St. George's Hospital on December 21, 1872, with a profuse discharge from the right ear. The discharge had come on, a few days after meeting with precisely the same accident as in the former case, in August of that year.

Nothing remained of the tympanic membrane, beyond a narrow rim at the upper part. The hearing was very much impaired. It was increased from 6 inches to 4 feet with the

watch by wearing a small plug of moistened cotton wool, adjusted with forceps to the tympanum.

Case III.

W. M., a gentleman, æt. 27, came to me in January of this year.

He said that eight days before, while he was blowing the nose very vigorously, he felt a sudden crack in the right ear, attended with a good deal of pain. Since then, the hearing on that side had been very imperfect, and a watch could be heard only when pressed close to the ear. There was a profuse discharge from the ear.

The anterior section of the tympanic membrane was absent, and the posterior section fallen in. He could blow freely through the perforation, and in doing so forced out a quantity of pus from the tympanum. There was constant tinnitus in the affected ear. In the course of a fortnight the tinnitus had subsided, and in a month, under the use of astringents, the discharge had nearly ceased; the hearing remained unaltered. By using, however, the cotton wool pressed up to the perforation, he could hear very fairly. The perforation has since shown no disposition to heal.

Case IV.

In January this year, a gentleman, æt. 53, finding that he was becoming deaf on the left side, pushed some wool into the ear by way (he said) of protection from the cold, and in doing so experienced a sudden pain. When I saw him on the 21st, four days afterwards, the ear was filled with wool and cerumen stained with blood. After the external meatus had been cleared, the hearing was quite good. There was a small slit-like perforation with red edges in the posterior half of the membrane, through which air passed freely. By February 21 the perforation had healed, no scar could be seen, and the hearing was perfect.

Case V.

J. M., a girl, æt. 17, came to St. George's Hospital on January 9, 1873. Three days before she was picking the right ear with the blunt end of a needle, which was protected by some linen. The needle slipped through the linen, and

punctured the tympanic membrane. There was a very small circular perforation in the posterior section of the membrane, a little below the level of the short process of the malleus. She suffered from tinnitus, but it was not of a very severe character.

The hearing was considerably impaired for conversation, and a watch was heard at half an inch from the ear. On January 22 the perforation had quite healed, leaving a scar. The tinnitus had disappeared, and the hearing was perfect. There was at no time any discharge from the ear, and no treatment was adopted.

If a patient is not seen for several days after the accident, and has a purulent discharge from the ear, it may be said to be at any rate certain that perfect hearing will never be possessed by the affected ear; still, it by no means follows that, although a purulent discharge is fully established, the perforation should not at some future time heal, as in Case I.; and it may be said that the extent of improved hearing which can be predicted, and the prospects of healing taking place when the case has reached this stage, are somewhat the same as when a perforation has been the result of disease, viz. when suppuration in the cavity of the tympanum has led to ulceration of a part of the membrane and the discharge found an exit in this way. It has been noticed by many observers that in these last-named cases a certain small proportion of them heal, and I have elsewhere recorded several examples, in which, when the cavity of the tympanum became more healthy, and the lining membrane ceased to secrete, the perforation has healed, the opening being filled up in a remarkably short space of time when the healing process has once commenced; indeed, in some perforations which have persisted for years the healing has only occupied a few days. Notwithstanding this occasional issue, experience has shown that such an unusual termination of a chronic case is as impossible to predict as it is impossible to induce with any degree of certainty by treatment.

Without entering into detail upon the subject of treatment, I may say that in these cases, when there was a purulent discharge, it included scrupulous cleanliness, the application of astringents so applied that they came in contact with the lining membrane of the tympanum, and the use of one or other form of artificial membrane, when it was found to effect better hearing; in the absence of suppuration no treatment at all was adopted, and the perforation healed in a

few days. In the latter cases, it does not appear to follow necessarily that the hearing will be regained in a greater degree than when the opening remains. In the year 1870 I reported (in the 'Lancet') several cases of the kind under notice. In one, the membrane was ruptured by a box on the ear (the sudden compression of air in the meatus being of course the immediate cause of the injury), and healed in a few days. Another where the membrane gave way during a fit of vomiting, and did not heal; another where a man accidentally pushed the head of a pin through the membrane; a slight discharge lasted for six weeks, and the rupture healed; another, where the accident was caused by a blade of straw, and the perforation had not healed when last seen: and in a recent communication to the Clinical Society, the injury was caused by a pair of scissors; the portio dura was wounded, leaving facial palsy, and the rupture healed. All five were succeeded by considerable impairment of hearing power.

In persons who recover from head injuries, when the membrane is ruptured, as shown by bleeding from the ears, it is a matter of common observation that many degrees of impaired hearing are met with, and generally the wound heals rapidly.

Upon reviewing the terminations of these cases, it would seem that the greatest losses in hearing follow those accidents where the greatest force is used in producing the rupture, and this holds good whether the perforation eventually heals or not. Thus, considerable force must be used to produce the accident if the instrument effecting it is blunt pointed; or again, if the rupture take place from the pressure of air from within, as in blowing the nose vigorously and vomiting, or pressure of air from without, as a box on the ear, and lastly, in the case of a blow or fall on the head. One is led, therefore, to conclude that it is chiefly the injury to the nervous structure of the ear behind the tympanum, which causes the loss of hearing power, rather than the injury to the conducting apparatus; in other words, that it is due to shock. This view is farther borne out by experience, upon comparing these cases with others where there has been shock produced in the same way or a similar way, but without any succeeding injury to the tympanic membrane. For example, a box on the ear, a blow on the head, or the explosion of a gun near to the ear—this last, as is well-known, being a very common accident with artillerymen. A

blow upon the tympanic membrane will drive the stapes with considerable force into the fenestra ovalis, while a box on the ear or an explosion near the ear will effect a shock in part also through the fenestra rotunda. What takes place beyond this is of course only matter of conjecture.

In contrast with those cases which eventuate in severe losses of hearing may be noted Case V., in which very little violence was used at the time of the injury, the wound was a clean puncture, no suppuration took place in the tympanum, and the hearing, although it was impaired for a few days, became perfect in a short time after the perforation had healed. It would thus appear that if a case is seen soon after the injury, and a reliable account of the accident obtained, we ought to be able to arrive at a fairly correct estimate of what the probable extent of impaired hearing is likely to be. In conclusion, it only remains to notice the impossibility of recognising with certainty cicatrices in the tympanic membrane, except when the perforation has been under observation, and frequently not even then. Anyone who examined such a case might easily mistake for a cicatrix some of the changes to which the membrane is prone when the tympanum has been the seat of catarrh.

XL.—*Case of Diabetes treated with Skimmed Milk.* By Edward Headlam Greenhow, M.D. *Read May* 23, 1873.

William H., coal porter, æt. 56, was admitted into the Middlesex Hospital under my care on November 9, 1872.

Family and previous history.—Patient's mother died of some pulmonary disease, but the family history was in other respects satisfactory. Patient had been a free liver, drinking largely of beer and gin. Twenty-three years ago he had an attack of rheumatic fever and inflammation of the lungs, and has ever since been subject to winter cough and to rheumatic pains, especially in the right leg. For about nineteen weeks he has been suffering from pains in the back and legs, and about a month ago observed that his right leg was swollen. The pain and swelling have continued to increase up to the time of his admission. Passes a good deal of urine.

State on admission.—Patient is a large, stout, heavy-look-

ing man, of dark complexion, with grey hair. Weight, 15½ stones. Tongue coated with white fur. Anteriorly the chest is resonant on percussion and the breath sounds are normal. Posteriorly there is somewhat impaired resonance over the right base, and slight crepitation is occasionally heard in the bases of both lungs. Area of cardiac dulness and heart-sounds normal. Liver and spleen of normal size. The right leg is œdematous, greatly enlarged, and of a purple hue; the superficial veins being congested. Pulse 72, Temperature 98·8°. Bowels confined.

Progress of case.—His bowels were well cleared out on the day after admission. On the following day he was reported to have a good deal of cough during the night and early morning, and to be raising a considerable quantity of frothy muco-purulent sputum containing much black pigment, and this continued more or less during his whole stay in the hospital. He had passed 110 ounces of urine during the twenty-four hours; sp. gr. 1035; free from albumen, but giving the reaction of sugar with Trommer's test. He was put upon a moderately restricted diet, consisting of lean meat, greens, milk, eggs, and toasted brown bread, with four ounces of brandy daily, and was kept under observation for several days without special treatment. On December 1 he had passed during the previous twenty-four hours 102 ounces of urine, which gave the characteristic reaction for sugar with Trommer's test. It had a specific gravity of 1032, which fell after fermentation to 1012, showing (according to the results obtained from a series of experiments performed by Dr. W. Roberts) a proportion of 20 grains of sugar to each fluid ounce of urine, or 4 ounces and 2 drachms of sugar in the urine passed during the twenty-four hours.

On December 4 I ordered him ½ grain of opium twice a day, and increased the quantity in the course of two or three days to 1 grain three times a day. Under the use of the opium he appeared to be somewhat less thirsty, but the quantity of urine did not much diminish, varying from 80 to 100 ounces in the twenty-four hours, whilst its specific gravity ranged from 1030 to 1036. Upon the whole, I thought the opium promised to be of some use as regarded the diabetes, but it disagreed with the patient otherwise. His pupils became contracted, his tongue very creamy, and his bowels obstinately confined, with distressing tympanitic distension of the abdomen. On December 12, his pulse having become intermittent, the opium was decreased to 2 grains in the

day, and an enema was ordered, containing oil of rue, to relieve the abdominal uneasiness.

On December 13 he was ordered as diet 4 quarts of skimmed milk daily, without bread or any other article of food whatever, and his brandy was reduced to 3 ounces per day. On this day he passed 95 ounces of urine, with a specific gravity of 1035, reduced by fermentation to 1007. Three days afterwards the opium was reduced to 1 grain at bedtime, and two days later both the opium and brandy were entirely discontinued. From this date he was kept rigidly upon the diet of skimmed milk, the quantity being gradually increased up to 6 quarts, and a portion of it after a time being made into curd. Under this treatment he lost the thirst, his skin became softer, and he perspired at night. He also lost weight to the extent of ½ stone, but soon began to regain it, and on December 31 weighed 15 stone 2 pounds. He took no medicine excepting occasionally a simple cough mixture, consisting of solution of acetate of ammonia, ipecacuanha wine, and compound tincture of camphor, and from time to time he had a dose of castor oil or a simple enema to move the bowels.

The quantity of urine passed in the twenty-four hours fell on December 15 to 60 ounces; specific gravity 1032, reduced by fermentation to 1009; showing 23 grains of sugar per ounce of urine, the total quantity of sugar excreted during the twenty-four hours being then rather under 3 ounces.

From this time there was a gradual, though not quite steady, decrease both in the quantity of urine passed and in its specific gravity. After January 1 the specific gravity only once reached 1025, and on not more than four occasions exceeded 1015. The quantity varied more, namely, from 50 to 100 ounces in the twenty-four hours, but was most frequently from about 60 to 80 ounces. On December 28 the urine contained rather less than 5 grains of sugar to each fluid ounce, and the sugar continued to decrease until, on January 7, no sugar was detected either by fermentation or by Trommer's test. After January 18 no traces of sugar were ever found, except on January 11 and 15. The man was kept in the hospital until March 12, when he was discharged to the Convalescent Hospital at Eastbourne. His diet then consisted of eggs and bran-gluten cakes, with skimmed milk for breakfast; of lean meat—beef or mutton—and greens, with skimmed milk for dinner; bran-gluten

cakes and skimmed milk for tea; and cold meat with the cakes and milk for supper. Whilst at Eastbourne he began to eat brown bread, which he still continues to do.

W. H. was readmitted into the hospital under observation on April 5. He was then passing from 40 to 60 ounces of urine in the twenty-four hours; sp. gr. 1010 to 1030. It gave no saccharine reaction either with Trommer's or the fermentation test, but contained an excess of lithates. He was discharged on April 19, but continues to present himself periodically for examination. He passes during the twenty-four hours from 40 to 50 ounces of urine, which remains quite free from sugar. He looks well, and has lost the bronchitis from which he suffered during the first period of his residence in the hospital; but he still complains of some pain in the loins, and says that his right foot swells after any great fatigue. His urine has occasionally been turbid on cooling from excess of lithates, and on a few occasions lithic acid crystals have been found deposited at the bottom of the vessel soon after micturition.*

The annexed table (pp. 186, 187) shows the quantity of urine passed daily from December 1 to March 3, its specific gravity before and after fermentation, the proportion of sugar to each ounce of urine, and the total quantity of sugar excreted during each twenty-four hours.

Remarks.—This was a recent and not very severe case of diabetes, but the patient was a man of intemperate habits and broken-down health, and taking these circumstances into consideration, the result of the treatment must be allowed to be very satisfactory. After keeping him some days under observation, in order to ascertain what effect would be produced on his disease by a moderately restricted diet, with the rest and other hygienic advantages of the hospital, I put him upon the opium treatment as recommended by Dr. Pavy. The opium I thought promised to be of some use as regarded the diabetes, but it disagreed with the patient, producing most unmanageable constipation, and on account of the constitutional effects the quantity administered could not be increased beyond 3 grains in the twenty-four hours. I now, therefore, determined to try some other means. Having read in the 'Lancet' Dr. A. S. Donkin's papers on the skim-milk

* May 20, 1873.—W. H. attended at the hospital to-day. His aspect is healthy, and he states that he passes from 2 to 2½ pints of urine daily. The specimen he brought was clear, pale-coloured, sp. gr. 1013, and perfectly free from sugar when tested both by Fehling's and Trommer's tests.

DAILY REPORT OF THE QUANTITY OF URINE PASSED, OF ITS SPECIFIC GRAVITY BEFORE AND AFTER FERMENTATION, OF THE PROPORTION OF SUGAR TO EACH FLUID OUNCE OF URINE, AND OF THE TOTAL QUANTITY OF SUGAR EXCRETED DURING THE TWENTY-FOUR HOURS.

Date	Ounces of urine in twenty-four hours	Sp. gr. before fermentation	Sp. gr. after fermentation	Grains of sugar to each ounce of urine	Grains of sugar during twenty-four hours	Remarks
Dec. 1	102	1032	1012	20	2040	
„ 2	100	1032	1009	23	2300	
„ 3	132	1034	1011	23	3036	
„ 4	100	1034	1012	22	2200	Half a grain of opium three times a day
„ 5	80	1034	1007	27	2160	
„ 6	90	1037	1004	33	2970	
„ 7	78	1034	1011	23	1794	One grain of opium three times a day
„ 8	80	1032	1010	22	1760	
„ 9	56	1034	1009	25	1400	Bowels freely purged
„ 10	170	1030	1010	20	3400	
„ 11	106	1032	1008	24	2544	
„ 12	96	1035	1007	28	2688	
„ 13	80	1036	1007	29	2320	
„ 14	86	1034	1010	24	2064	Diet, four quarts of skimmed milk
„ 15	60	1032	1009	23	1380	
„ 16	36	1036	1009	27	972	Bowels moved by castor oil
„ 17	50	1037	1009	28	1400	One grain of opium twice a day
„ 18	50	1026	1010	16	800	
„ 19	52	1031	1011	20	1040	Opium and brandy discontinued
„ 20	70	1025	1018	7	490	Diet, five quarts of skimmed milk
„ 21	60	1015	1008	7	420	
„ 22	60	1022	1008	14	840	
„ 23	58	1032	1008	24	1392	
„ 24	60	1022	1011	11	660	
„ 25	42	1017	1013	4	168	
„ 26	60	1017	1010	7	420	
„ 27	80	1015	—	—	—	Urine not fermented
„ 28	82	1013	1009	4	328	
„ 29	60	1011	1010	1	60	
„ 30	54	1015	1012	3	162	Patient's weight, 15 stone 2 pounds
„ 31	60	1015	1012	3	180	
Jan. 1	72	1013	1011	2	144	
„ 2	94	1010	1009	1	94	
„ 3	102	1013	1009	4	408	
„ 4	42	1015	1012	3	126	Bowels purged by medicine
„ 5	52	1010	1008	2	104	Diet, six quarts of skimmed milk
„ 6	100	1015	1012	3	300	Patient's weight, 15 stone 6 pounds
„ 7	90	1011	1011	None	None	
„ 8	90	1012	1010	2	180	
„ 9	90	1016	1011	5	450	
„ 10	92	1012	1011	1	92	
„ 11	55	1018	1015	3	165	
„ 12	76	1011	1011	None	None	
„ 13	60	1012	1012	„	„	
„ 14	65	1012	—	—	—	Urine not fermented
„ 15	30	1026	1025	1	30	

DAILY REPORT—*continued.*

Date	Ounce of urine in twenty-four hours	Sp. gr. before fermentation	Sp. gr. after fermentation	Grains of sugar to each ounce of urine	Grains of sugar during twenty-four hours	Remarks
Jan. 16	54	1017	1017	None	None	
„ 17	65	1014	1014	„	„	
„ 18	60	1012	1011	1	60	
„ 19	60	1015	1015	None	None	
„ 20	60	1011	1011	„	„	
„ 21	70	1014	1014	„	„	One pint of the milk to be made into curd
„ 22	95	1011	1011	„	„	
„ 23	60	1012	1013	„	„	
„ 24	60	1011	1011	„	„	
„ 25	60	1011	1011	„	„	
„ 26	50	1017	1017	„	„	
„ 27	60	1013	1013	„	„	
„ 28	72	1012	1012	„	„	Diet, four ounces of lean beef-steak and five quarts of skimmed milk
„ 29	58	1019	1019	„	„	
„ 30	100	1013	1013	„	„	
„ 31	60	1017	1017	„	„	
Feb. 1	60	1017	1017	„	„	
„ 2	100	1014	1014	„	„	
„ 3	80	1021	1021	„	„	
„ 4	80	1018	1018	„	„	
„ 5	80	1016	1016	„	„	
„ 6	100	1016	—	—	—	Urine not fermented
„ 7	60	1017	1017	None	None	
„ 8	70	1018	1018	„	„	
„ 9	70	1018	1018	„	„	
„ 10	50	1021	1021	„	„	Patient's weight, 15 stone 10 pounds
„ 11	70	1017	1017	„	„	
„ 12	88	1019	1019	„	„	
„ 13	76	1017	1017	„	„	
„ 14	88	1020	1020	„	„	
„ 15	80	1020	1020	„	„	
„ 16	86	1016	1016	„	„	
„ 17	88	1019	1019	„	„	
„ 18	66	1016	1016	„	„	
„ 19	80	1021	—	—	—	Urine not fermented
„ 20	44	1019	1019	None	None	
„ 21	100	1015	1015	„	„	
„ 22	92	1017	1017	„	„	
„ 23	70	1018	1018	„	„	
„ 24	100	1016	1016	„	„	Diet, two eggs, ten ounces lean steak, three quarts skimmed milk, two bran-gluten cakes
„ 25	100	1019	1019	„	„	
„ 26	70	1019	1019	„	„	
„ 27	77	1017	1017	„	„	
„ 28	72	1017	1017	„	„	
Mar. 1	77	1020	1020	„	„	
„ 2	79	1017	1017	„	„	Patient's weight, 15 stone 10½ pounds
„ 3	60	1021	—	—	—	Fermentation discontinued

treatment of diabetes, and thinking the proposal sufficiently plausible to justify a trial, I put the man upon this treatment, on the plan recommended by Dr. Donkin. The treatment may be briefly summarised as follows:

On December 14 he was put on an allowance of 4 quarts of skimmed milk daily, at the rate of 1 pint every three hours. I did not venture to discontinue the opium and brandy suddenly, but decreased them gradually, and after closely watching the progress of the case for a few days omitted them altogether on December 19, and from that day the patient's diet, with his own full consent, was exclusively restricted to skimmed milk. Being a very large, stout man, and accustomed to drink a gallon of beer daily as well as gin, he found the allowance of milk insufficient, and at his request it was increased on December 20 to 5 quarts, and on January 4 to 6 quarts daily. To this diet he was rigorously kept till January 21, when a portion of the milk was allowed to be converted into curd. On January 18, exactly five weeks from the commencement of the skimmed-milk treatment, the last trace of sugar was found in the urine, and none has ever been detected since. He was still kept exclusively upon the milk diet until January 28, or six weeks and three days in all, and was then allowed 4 ounces of lightly-cooked lean beef-steak daily, the allowance of milk being at the same time reduced to 5 quarts. Thenceforward his diet was gradually changed to what is detailed in the case when he left for Eastbourne.

Dr. Donkin states that his advocacy of skimmed milk as diet in certain diseases is founded on the belief that milk contains all the constituents necessary for the nutrition of the body. His reason for giving it skimmed is that cream is extremely prone, especially in invalids, to cause indigestion when the diet consists exclusively of milk. For further details of his views, I must refer to his published writings on the subject; but I may add that Dr. Donkin was quite unknown to me except through the medium of his papers in the 'Lancet,' until I considered it right to acquaint him with the favourable result of my trial of the skimmed-milk treatment in the present case.

I do not, however, communicate the case to the Society with the object of putting forward skimmed milk as a panacea for the cure of diabetes, neither do I feel justified in asserting that a permanent cure has been effected even in the present case. So far as it has gone, I regard the case as an important and encouraging one; as showing both that

it is possible to maintain an adult, in health and strength for many weeks, upon an exclusively milk diet, and also that such diet is sometimes at least successful in removing the sugar from the urine of diabetic patients; but I do not pretend to determine from my present very limited experience in what proportion, or in what classes, of diabetic cases it would be found efficacious. In old-standing cases, and especially in those complicated with phthisis or other organic disease, it would undoubtedly fail, as we know every other mode of treatment hitherto devised has failed. As regards W. H., on the other hand, I am decidedly of opinion that no other plan of treatment could have been more beneficial to him, if indeed any could have been as much so as the treatment under which he has made for the present so good a recovery.

XLI.—*A Case of Intestinal Obstruction.* By George W. Callender. *Read May* 23, 1873.

THIS case of intestinal obstruction, occurring under somewhat unusual circumstances, has been recently under treatment in St. Bartholomew's Hospital. The patient having had his bowels freely opened on the morning of an operation, from that time until his death suffered from constipation, without the intercurrence of any signs which could enable us to decide as to the cause of the obstruction, but with symptoms which made the question of treatment one for anxious consideration, as will be seen in following the story of the case.

A soldier, æt. 46, in active service, was admitted October 21, 1872, with a pendulous fatty tumour growing from the front of the right shoulder, and of twelve years' duration. His general health was good, as also was his family history, his parents being both living. The tumour was removed on October 26, and in due course the wound healed, despite the conditions which presently arose, and will be next referred to. It may be again mentioned that the bowels were freely opened the morning of the day of the operation, and, in accordance with a rule always observed, the urine was examined and found to have a sp. gr. of 1020, was slightly acid, and was free from albumen.

On the second day after the operation the patient complained of pain in the back and abdomen, and the next day he was slightly sick, the pain subsiding. On the fourth day he was again sick, and suffered from hiccough. Up to this date there had been no action of the bowels since the morning of the operation.

Notwithstanding the use of morphia injections, he failed to obtain sleep, being kept awake by the pain which pervaded the abdomen (not being referred to any particular region). On the sixth day, the other symptoms persisting, and the bowels remaining confined, his pulse began to rise, and his temperature fell. At this time injections were used in the expectation of the relief which it was presumed would follow an action of the bowels, two aperient pills having been given on the previous day. On the seventh day the symptoms were more severe, the vomiting and retchings were constant, the vomits being deeply bile stained; the stomach became somewhat swollen, and the patient lay with his thighs flexed upon the abdomen. The urine was now retained, and had to be drawn off by a catheter.*

At this time the patient was ordered a warm bath, and

* Pulse, temperature, and respiration during the progress of the case are given in the accompanying table:—

—	P.	T.	R.	—	P.	T.	R.
		°				°	
Morning of operation	72	97·2	14	Seventh day Morning . .	100	96	22
Evening . .	104	97·6	24	Evening . .	120	97	20
First day				Eighth day			
Morning . .	76	97·8	18	Morning . .	135	96	32
Evening . .	78	99	18	Evening . .	120	97·4	20
Second day				Ninth day			
Morning . .	94	99·6	26	Morning . .	120	96·4	28
Evening . .	108	98·2	18	Evening . .	—	—	—
Third day				Tenth day			
Morning . .	120	97·6	20	Morning . .	120	96·2	28
Evening . .	102	98	27	Evening . .	120	96	30
Fourth day				Eleventh day			
Morning . .	100	97·2	16	Morning . .	104	95·6	24
Evening . .	—	—	—	Evening . .	100	97	28
Fifth day				Twelfth day			
Morning . .	92	96·8	20	Morning . .	96	99·2	24
Evening . .	96	97·6	18	Evening . .	124	99·4	28
Sixth day							
Morning . .	112	98	22				
Evening . .	100	97	18				

after he had been immersed in it for ten minutes, three pints of warm water were injected into the rectum, but presently returned unaltered, and the same result followed the injection by means of a long tube of considerable quantities of warm olive oil, which on the following day was used in lieu of warm water.

It now being evident that we had to deal with more than ordinary constipation of the bowels, we again went over the history of the patient, lest any material point in it should have escaped our notice. But there was absolutely nothing to help us in our diagnosis. There was, indeed, the fact that he had served in the Crimea, but he was well acquainted with the symptoms of dysentery, and was clear he had never suffered from the complaint; he never had been constipated, and in fact had no trouble to name or to recall.

With the continuance of the constipation, and with the commencement of the vomiting of bile-stained contents of the stomach, a further examination of the abdomen and of its outlets was made. The whole stomach was swollen, and the outline of various portions of intestine was distinct, but it was doubtful what portions were thus distended and prominent; whilst some of my colleagues thought they could trace the several divisions of the colon, I was indisposed to regard the dilated bowel as large intestine, because the loins were flat, and there was no sort of fulness or resonance on percussion in the lumbar regions. There was an entire absence of strictly local pain or tenderness. The abdominal wall, except in the lumbar regions, was resonant on percussion, and on rocking the contents from side to side they moved in a massive way, as if, as was suggested, they had been matted together by chronic peritoneal inflammation. The various outlets, whence herniæ often protrude, were natural, and, excepting a slight enlargement of the prostate, the rectum was free from all obstruction, so that a long tube could be easily passed along its canal.

With such evidence before us we had to question the nature of the obstruction, and to decide upon the treatment of the case. If I may be allowed to arrange for my present purpose cases of intestinal obstruction, I should group them in two divisions, as cases of obstruction + strangulation, and cases of obstruction − strangulation, and then, looking at the entire absence of symptoms indicative of strangulation of the vessels of the wall of any part of the intestine, it was clear at all events that our patient was suffering from

obstruction—strangulation. It is not worth while to detain the Society with the speculations hazarded respecting the various well-known conditions upon which the obstruction might in this instance depend. I may sum up the evidence by stating that it was impossible, from the facts before us, to determine the cause or the site of the obstruction.

When the question of treatment was considered, I decided against gastrotomy, on the ground that there was no single symptom to guide one as to the nature (except as to the absence of strangulation) or probable situation of the obstruction, and I did not feel justified in making a merely exploratory incision. I also decided against practising colotomy, because, in the absence of stricture in the lower part of the large intestine, and in the absence of fulness of the ascending and descending portions of the colon, I was unwilling to subject the patient to an operation very little likely to give him any relief.

The next day some hope was raised by the discharge, after injections of oil, which had been repeatedly used, of some fæcal matter, but the patient was now rapidly sinking, and died two days later.

After death, the large intestine was found to be empty and free from disease. The small intestine was distended with fluid contents. Three inches above the ileo-cæcal valve a coil of small intestine was twice twisted round a portion of the mesentery, and the canal of the bowel was thus completely obstructed. There were no recent inflammatory changes about this part of the intestine, but from the dense and contracted condition of the bowel where twisted, it must have been for some time narrowed at this point. When I moved aside coils of intestine which lay in front of the obstruction, more or less adherent amongst themselves by means of old and tough peritoneal bands, and when I endeavoured to, and after some sorting of the parts, succeeded in unrolling the twisted canal, I was glad not to have attempted the operation during the life of the patient, for it would then have been impracticable.

In the year 1864 a patient was convalescing under my care after the removal of a cancer of the breast, and as she lay quietly in her bed, seven days after the operation, a portion of small intestine slipped through a hole in the mesentery, and she died with symptoms of acute strangulation. In this case also gastrotomy would have failed in relieving the

stricture, which was effected with difficulty even at the post-mortem.

Besides the interest attaching to these cases, from the nature of the complaint and the questions of treatment which such cases always give rise to, I have brought them before the Society more particularly because the singular circumstance of the obstruction occurring during convalescence from an operation, rendered the diagnosis and management of either case more than usually difficult.

XLII.—*A Case of Intestinal Obstruction caused by the Impaction of a Gall-stone.* By J. S. Gray, M.D. *Communicated by* G. W. Callender.

On December 15, I was called to see a man, æt. 40, who was suffering from nausea, with foul tongue and offensive breath, vomiting occasionally some bilious matter, and complaining of paroxysms of pain in the umbilical region.

There was tenderness about the same space, and there was dulness on percussion in both inguinal regions.

He told me the attack came on the evening before, the pain being very violent, and the vomiting distressing, the vomited matter being highly offensive. Everything that he had taken since Saturday had been rejected, and there had been no action of the bowels. I ordered him a soothing mixture and two purgative pills. On Monday, the day following, I found him with less pain, less tenderness, vomiting less frequent, but still there was no action of the bowels. He thought himself a little better, and would go into the City on business. On Tuesday his distress greatly increased; his countenance was haggard, and he was desponding as to the result; vomiting more frequent, the fluid ejected being stercoraceous, tenderness had returned, and there was no action of the bowels. To have calomel and opium pill; opiate liniment to the abdomen and hot fomentation over it; castor-oil enema. The enema was retained, and produced no effect, and a beef-tea enema was given, when, in two hours, the bowels acted, expelling a considerable quantity of hard and soft fæcal matter. Nothing further was given by the mouth, except a little water now and then, for the next seven days, but beef-tea, aloetic, and copious soap-and-water

injections were (sometimes to the extent of five pints at a time) given daily, and the opiate liniment and fomentation to the abdomen were continued so long as the pain lasted. The stercoraceous vomiting went on, but the pulse day by day improved, the countenance gradually lost its anxious expression, the mind became more hopeful, the sleep, at first short, broken, and troubled, became more tranquil, and, although the obstruction remained, the improved general condition of the patient gave more hope. On Tuesday, the 24th—the twelfth day of the obstruction—the bowels acted spontaneously, the motion having the same odour and appearance as the matter daily vomited: several motions passed without pain, the vomiting ceased, and at length in the evening a calculus was passed through the sphincter ani with some difficulty.

There is little singular or novel in the treatment of the case, except that the beef-tea enemas were larger than are usually employed, and fulfilled a threefold intention; first, by supplying abundant material easily assimilated; secondly, by their soothing effect as an internal fomentation; and thirdly, by their solvent action on fæcal accumulations.

The calculus, two hours after it was passed, weighed 1 ounce and 13 grains. Some fragments have since been broken off, a part of which, ignited on a platinum foil, burnt with a white flame, leaving an ash containing soda and magnesia. The calculus is 2·1 inches in length and its greatest transverse measurement 1·5 inch.

There was nothing notable in the history of the patient, a gentleman strictly temperate and regular in his habits, accustomed to the usual routine of a City office.

Twelve months ago he suffered from a severe attack of typhoid fever, but with no intestinal complication. Since then the bowels had been constipated, and he had felt a sense of uneasiness in the umbilical region, and had taken occasionally citrate of magnesia as an aperient.

XLIII.—*Case of Right Hemiplegia occurring suddenly during Pregnancy; continuance of the Symptoms until Parturition; rapid improvement immediately following this process: Convalescence.* By Arthur W. Edis, M.D. *Taken as read May* 23, 1873.

M. S., æt. 19, married two years. Admitted into Middlesex Hospital on September 19, 1871. Has one child, and is now about three months advanced in second pregnancy.

Family history good. Had rheumatic fever six years ago, was laid up four months; had no cardiac symptoms, nor any since.

Present illness.—On the afternoon of September 10 patient took a short sleep, as was her custom, for half an hour, being perfectly well at the time.

On awakening, she discovered that she had completely lost power over right arm and leg, her face was distorted to the left, the saliva dribbled away, her speech was indistinct, and swallowing difficult. There was no loss of consciousness.

These symptoms persisted until September 12—forty-eight hours—since which time they have been gradually diminishing.

Three weeks previous to her attack, she received a blow on the left eye from her husband's fist; but, beyond a black eye, was not much hurt.

Has had no headache or vomiting; no discharge from ear. No fits.

State on admission.—Very corpulent; fresh colour; sanguineous temperament.

Complains of loss of power in right leg and arm, with inability to walk without much assistance.

Both limbs are normal as regards sensibility, but there is complete loss of power of motion in the arm, and partial loss of power in the leg. She walks with great difficulty, dragging the leg after her.

There is slight rigidity of the muscles of the leg, but none of the arm.

Pupils equal, and act normally to light. Tongue deviates slightly but distinctly to the right.

Left angle of mouth drawn down on speaking or laughing.

No headache, deafness, or aural discharge.

No abnormal sound with heart. Respirations 24 per minute.

Sleeps well at night, and is drowsy during the day.

Mind clear; temperature normal; urine acid, clear, no albumen, sp. gr. 1016.

Catamenia absent since beginning of July.

September 21.—Is slowly regaining power over leg, but arm remains as powerless as on admission. Suffers at times from palpitation. Soft, inconstant, bellows murmur, with systole, heard at base of heart. Diastolic sound normal. Heart's action occasionally irregular. The murmur, when the heart is acting regularly, is either inaudible or very faint. Pulse 80.

30.—Paralysis of leg diminishing slowly; that of arm remains stationary. Tongue protruded almost straight. Angles of mouth move equally.

October 10.—Very little improvement since last report. Discharged at own request.

During the following five months she was able to walk up and down stairs, but not able to use right arm, though sensation and temperature were normal.

I am indebted to Mr. H. T. Lucas, resident medical officer at the Middlesex Hospital, for the above very accurate notes.

On March 19, 1872, she was admitted into the British Lying-In Hospital, Endell Street, in labour with her second child. The confinement was natural, being over in about seven hours; the child, a boy, weighing 7½ pounds, being healthy. Her right arm was quite paralysed. The paralysis of the arm began to improve as soon as her confinement was over, and continued to do so until, on April 2, a fortnight from her admission, she could extend the arm, touch the back of her head, and support the child on the arm, though the fist could only be closed imperfectly. She could feel a pin on the bed but could not pick it up. She has occasional twitchings in the arm. The pupils were widely dilated, and both equal in size. She could not see to read small print. The peculiarity in the speech remained still. The temperature and pulse were normal.

On May 9 she reported herself, at my request, at my clinic at the Hospital for Women, Soho Square, when it was found that she had rapidly regained power in both leg and arm, being able to grasp my hand firmly with her right hand, and to use it in her daily avocations. Sensation was perfect, compass points at 2 inches apart being readily distinguished on the inner side of right forearm.

She still walks a little lame, but with perfect safety to herself, and carries her child with facility.

On November 25 she again reported herself, and may now be considered quite convalescent, being able to use both arms and legs perfectly; the only perceptible difference being some slight diminution in temperature on the affected side, the occasional occurrence of *numbness* in the left arm, and a slight diminution in power during wet weather. She held her child up at some distance from her body, to show me how strong the arm was, and on testing it further I found she could grasp my hand as firmly as with the healthy one. The arm responded perfectly to galvanism. The speech was natural and the pupils equal.

Remarks.—I have thought the case worth bringing before the notice of this Society, the history being complete, and it being one of unusual occurrence.

Churchill, who is proverbially great on statistics, mentions his inability to find more than twenty-three cases of paralysis occurring during pregnancy, eleven only of which were of the form of hemiplegia, after a very diligent search, not only among obstetric authors, but also in systematic works on medicine, and therefore any contribution to the literature of the subject is worth recording.

What was the probable *cause* in this case?

Dr. Cayley, under whose care she was at the Middlesex Hospital, seemed to incline to the belief that it was due to embolism. But if so, why did the symptoms remain almost stationary during the six months of pregnancy, and begin to improve immediately after parturition? Had it not been for the wasting that naturally occurred from disuse of the muscles during these six months, my impression is that the patient would have been perfectly restored as soon as delivery took place. Had the paralysis been limited to the lower extremity, one might fairly have sought for an explanation of it by pressure on the sacral plexus by the gravid uterus; but here the right side of the body was affected, including the face.

Abercrombie, in his 'Diseases of the Brain,' states that, 'We see hemiplegia take place in the highest degree, and yet very rapidly disappear; but the most singular circumstance connected with certain cases of palsy is, that we occasionally see it continue without any improvement for many weeks or months; and then, from some change which

entirely eludes our observation, take a turn for the better, and entirely disappear.'

This seems to have been one of these curious cases; the contrast between the condition of the patient on her admission to the Lying-In Hospital, and upon her discharge a fortnight subsequently, being very marked indeed; yet this paralysis had remained almost in *statu quo* for a period of five months.

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